



Spring 2001 Released Tests

(Supplemental Information)

Grade 8

English: Reading/ Literature and Research

English: Writing

Mathematics

Science

Computer/Technology

Property of the Virginia Department of Education

© 2001 by the Commonwealth of Virginia Department of Education, James Monroe Building, 101 N. 14th Street, Richmond, Virginia, 23219. All rights reserved. Except as permitted by law, this material may not be reproduced or used in any form or by any means, electronic or mechanical, including photocopying or recording, or by any information storage or retrieval system, without written permission from the copyright owner. Commonwealth of Virginia public school educators may photocopy or print any portion of these Released Tests for educational purposes without requesting permission. All others should direct their requests to the Commonwealth of Virginia Department of Education at (804) 225-2102, Division of Assessment and Reporting.



Table of Contents

5	Introducing the Virginia Standards of Learning Grade 8 Assessment
6	Grade 8 English: Reading/Literature and Research
31	Grade 8 English: Writing
46	Grade 8 Mathematics
79	Grade 8 Science
115	Grade 8 Computer/Technology



Introducing the Virginia Standards of Learning

Grade 8 Assessment

One of the complete test forms from the Spring 2001 Standards of Learning administration is presented in the following pages. The intent of this released test is to provide parents and teachers additional information to accompany the Student Performance Report and/or the Parent Report.

The information accompanying each test question is broken into several components:

Reporting Category: Matches the score report and allows for identification of strengths and weaknesses indicated by student scores.

Standard of Learning: Presents the SOL used in developing the assessment question.

Instruction: Provides information for teachers to use as the SOL is incorporated into instruction.

The answer to each question can be found at the back of the booklet.

English: Reading/Literature and Research Test



RELEASED ▼ SELECTION

Directions: Read the passage and answer the questions that follow.

The Case of the Last-Minute Clue

- 1 As soon as Danny Samuel arrived home from school, he pulled the crumpled piece of paper from his pocket and looked at it again. "Who could have written this?" he wondered for the thousandth time since finding the note taped to his locker door.
- 2 Danny reread the note in hopes of finding a clue to the writer's identity. "The bolts were loose so I tightened them. I accidentally got grease on the bridge and couldn't get it off. You'll need to repaint the greasy spot before tonight, but the bridge is sturdy now!"
- 3 When Danny had first read this message, he thought someone was trying to pull a prank on him. "Bolts? Bridges?" he puzzled. Then he remembered his project for the Science Exhibition that would be held in the school gym tonight. The mysterious "helper" had to be someone who was also competing.
- 4 Danny was sure that his project, a model suspension bridge, was among the top contenders for an award. To prove the bridge's strength, Danny would fill two toy trucks to overflowing with rocks and place them on the bridge. That night, he would perform this demonstration before an audience of students and parents. Later, the judges would present ribbons to the winners, and Danny was hoping to receive one.
- 5 After finding the note, Danny had gone to the gym to check his project. Sure enough, there was a greasy smudge where someone had held the bridge to steady it while tightening the bolts that attached the cables to the supports for the bridge. Danny felt certain that the bolts had loosened when he carried the bridge from the science room to the gym. He had been in such a hurry to get to his next class that he hadn't taken the time to check the bolts or anything else. "Thank goodness!" thought Danny. "If someone hadn't noticed and tightened the loose bolts, the bridge would have collapsed the minute I put the trucks on it. My project would have failed!"
- 6 Danny explained the fortuitous event to his mother. She encouraged him to eat quickly and return to the gym to paint over the greasy smudge. "Maybe I'll even find some clues to tell me who my 'helper' is," Danny said, as he packed a paintbrush, some paper towels, and the jar of bright orange paint that he had used on the bridge.
- 7 At school, Danny went straight to the gym. Some students were already looking at the exhibits which had been arranged on a platform. Danny carefully painted the smudged area and then examined his project one last time. Finding nothing amiss, he stashed his painting materials under the platform.
- 8 Danny decided to look at the other projects, still hoping to find some clue to the identity of his "helper." The competition this year had been especially tough, and he was anxious to know which classmate had been so thoughtful.
- 9 Bob Wyatt's project was a good one. Bob wanted to be an astronaut someday, and his model of a future space station, complete with solar panels and communication satellites, was sure to receive an award. "No clues here," thought Danny.
- 10 On the other side of Bob's project was Joe Don Mason's operational wind tunnel. It, too, was exemplary. The tunnel wall was made of clear plastic, and a tiny handmade glider was visible inside the tunnel. Everyone had expected Joe Don to do something with wheels or motors because he was always working on his bicycle or talking about the car he was restoring in his garage at home. "No clues here either," muttered Danny.

English: Reading/Literature and Research Test



RELEASED ▼ SELECTION

- 11 Seeking inspiration elsewhere, Danny wandered around several other projects. He saw Sun Mai Lee's colorful display on the formation of desert mirages, J.J. Brandon's layout of the cables that make up automobile circuits, and Elena East's exceptional environmental exhibit. "No clues anywhere," Danny decided, as he drifted back toward his own project.
- 12 Danny glanced toward the gym door and saw Joe Don hurrying toward the platform. Draped over Joe Don's shoulder was the olive-drab canvas bag that contained his collection of hand tools. Joe Don never went anywhere without that bag. He was proud of the fact that he could keep his old bike on the road, even if he did have to stop every mile or two to tighten something.
- 13 Joe Don and Danny reached the platform at the same time. Danny noticed that Joe Don's hands were greasy. Suddenly, a big smile appeared on Danny's face. "Working on that bike again, huh?" he asked. Joe Don nodded and held up his greasy hands. Danny reached under the platform and pulled out his roll of paper towels. "Thanks for taking the time to tighten the bolts on my bridge," Danny said gratefully.
- 14 "Oh, that was really hard work," replied Joe Don with a grin.
- 15 "You saved my demonstration," Danny insisted, as he handed a paper towel to his smudge-laden friend.

Reporting Category: Understand a variety of printed materials/resource materials.

A. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

c) Use context clues to read unfamiliar words.

Builds To: Increased comprehension and vocabulary development.

- A**
- 1 In paragraph 6, the word fortuitous means —
 - A chance happening
 - B special project
 - C hopeful wish
 - D difficult contest

Instruction: Provide students opportunities to determine the meaning of unfamiliar words by using context clues provided in text.

English: Reading/Literature and Research Test



A. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

d) Draw conclusions and make inferences based on explicit and implied information.

Builds To: Comprehension of increasingly complex and detailed text.

<p>A</p> <p>2 From paragraph 5, the reader learns all of these <i>except</i> —</p> <p>F where Danny's project was</p> <p>G why the bolts were loose on the bridge</p> <p>H when Danny would have discovered the loose bolts</p> <p>J what kind of material Danny used in his project</p>	<p>3 The author provides enough information for the reader to conclude that —</p> <p>A Bob Wyatt's project should have included a motor</p> <p>B Sun Mai Lee once lived in a desert</p> <p>C J.J. Brandon's project had a good chance of winning</p> <p>D Joe Don had looked closely at Danny's project</p>
--	--

Instruction: Provide students opportunities to draw conclusions and to locate details from a variety of written materials.

B. Standard of Learning: 6.9.0 The student will select the best sources for a given purpose, including atlases, dictionaries, globes, interviews, telephone directories, encyclopedias, electronic databases, and the *Reader's Guide*.

Builds To: Working with library and media sources for research continues throughout the study of Reading/Literature and Research and increases in complexity.

<p>B</p>	<p>4 The title of this selection suggests that it would <i>most</i> likely be found in which of these books?</p> <p>F <i>Science Exhibition Projects</i></p> <p>G <i>Writing Good Notes</i></p> <p>H <i>Bridges That Made History</i></p> <p>J <i>Real Life Mysteries</i></p>
-----------------	--

Instruction: Provide students many opportunities to use a variety of resources in the library/media center.

English: Reading/Literature and Research Test



Reporting Category: Understand elements of literature.

A. Standard of Learning: 7.5 The student will read a variety of fiction, nonfiction, and poetry.

b) Analyze relationship between author's style, literary form, and intended impact on reader.

Builds To: Analysis of the relationship among author's style, literary form, and intended impact on the reader continues throughout the study of Reading/Literature and Research and increases in complexity.

A

5 With which words does the author foreshadow the identity of Danny's "helper?"

- A "He was always working on his bicycle."
- B "No clues here yet."
- C "Tonight he would perform his demonstration."
- D "Danny decided to look at other projects."

6 Even though Joe Don said "Oh, that was really hard work," the reader is aware that in reality —

- F the job was an easy one for him
- G Joe Don was resentful of having to help Danny
- H only a good mechanic could have done the job
- J Joe Don's project was not as good as Danny's

Instruction: Have students analyze the power of author's word choice and its intended impact on the reader in a variety of prose and poetry.

B. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

b) Describe inferred main ideas or themes.

Builds To: Inferring the main idea or theme continues throughout the study of Reading/Literature and Research and increases in complexity.

B

7 The main idea of the first three paragraphs is that Danny —

- A didn't know the identity of his helper
- B entered his project in the science exhibition
- C painted some greasy spots on his project
- D read a message someone left for him

Instruction: Provide students many opportunities to identify main ideas and themes in various literary works.

English: Reading/Literature and Research Test



A. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

c) Describe cause-effect relationships and their impact on plot.

Builds To: Work with cause-effect relationships and their impact on plot continues throughout the study of Reading/Literature and Research and increases in complexity.

- A**
- 8 Danny was in a hurry to eat so he could —**
- F call a friend to ask about the note
 - G get back to school to paint his project
 - H watch his favorite television program
 - J go to the store to buy brushes and paper towels

Instruction: Provide students opportunities to determine the impact of cause-effect relationships on the plot of various literary works.

B. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

d) Describe how authors use characters, point of view, and tone to create meaning.

Builds To: Work with characteristics and elements of literature continues throughout the study of Reading/Literature and Research and increases in complexity.

- B**
- 9 Which word *best* describes how Danny felt toward his “helper?”**
- A Envious
 - B Concerned
 - C Suspicious
 - D Grateful

Instruction: Have students identify the point of view and feelings of characters in a variety of literary works.

English: Reading/Literature and Research Test



RELEASED ▼ SELECTION

Directions: Read the poem and answer the questions that follow.

The Legend of Slewfoot-Sue

Deep in the heart of Texas
Where Pecos Bill did ride,
Folks tell the story of the gal
He chose to be his bride.

5 Her hair was blonde and curly,
Her eyes were deep-sea blue,
And she could ride and rope and shoot,
The gal called Slewfoot-Sue.

“If you’ll buy me a wedding gown,
10 If I can ride your horse,
I’ll marry you,” said Slewfoot-Sue,
And Bill replied, “Of course.”

The gown he bought was lacy white,
Its bustle soft and wide.
15 “Before we say I do,” she said,
“I think I’ll take a ride.”

The horse’s name was “Lightning”
And if you wonder why,
When Slewfoot sat upon his back
20 He pitched her to the sky.

They say she flew around the moon
Before she came back down.
Bill said, “I’ll catch you, Slewfoot-Sue,
Before you touch the ground.”

25 But she landed on her bustle
And sprang back up real far.
She kept a-bouncin’ up and down
Just like a shooting star.

But Pecos Bill would not give up
30 “Here’s what I’m gonna do!
I’ll lasso a tornado
and rescue Slewfoot-Sue!”

So he roped the storm and caught her
and they rode upon the wind
35 Until the storm subsided.
I swear it’s true, my friend.

Now some folks say they married,
Some say that’s not true,
But she never rode a horse again,
40 The gal called Slewfoot-Sue!

English: Reading/Literature and Research Test



Reporting Category: Understand a variety of printed materials/resource materials.

A. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

a) Identify questions to be answered.

Builds To: As students are required to comprehend increasingly complex text, their ability to formulate appropriate questions increases in importance.

A

10 Which question does stanza 3 answer?

- F What did Sue look like?
- G What did Sue want?
- H Was Bill able to lasso a tornado?
- J Did Bill get Sue her own horse?

Instruction: Provide opportunities for students to formulate questions based on text and to locate the answers to student generated and teacher generated questions.

B. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

d) Draw conclusions and make inferences based on explicit and implied information.

Builds To: Comprehension of increasingly complex and detailed text.

B

11 Which phrase from the poem tells something that Sue and Bill did together?

- A ... roped the storm ...
- B ... kept a-bouncin' up and down ...
- C ... rode upon the wind ...
- D ... flew around the moon ...

Instruction: Provide students opportunities to draw conclusions and to locate details from a variety of written materials.

English: Reading/Literature and Research Test



Reporting Category: Understand elements of literature.

A. Standard of Learning: 6.4 The student will read a variety of fiction (realistic, fantasy, historical, and biographical) and nonfiction (expository and argumentative).

c) Distinguish between first- and third-person point of view.

Builds To: Work with point of view continues throughout the study of Reading/Literature and Research and increases in complexity.

A 12 **From whose point of view is the story told in this poem?**

- F Pecos Bill
- G Unknown narrator
- H Slewfoot-Sue
- J Lightning

Instruction: Provide students with samples of selections written from various points of view and have them identify the characteristics of each, and the impact on the reader. Provide students with opportunities to rewrite text from a different point of view.

B. Standard of Learning: 7.7 The student will read a variety of poetry.

c) Explain how sentence structure, line length, and punctuation convey mood or meaning of a poem.

Builds To: The study of poetry continues throughout the study of Reading/Literature and Research and increases in complexity.

B 13 **The lack of punctuation at the ends of some lines gives the reader a feeling —**

- A of doubt
- B of continuing thought or action
- C that something is missing
- D that there should be a pause at the end of every line

Instruction: Provide students with opportunities to examine and mimic the structures of a variety of poems. Provide opportunities for students to draft, revise, edit, and publish poetry.

English: Reading/Literature and Research Test



A. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

a) Explain the use of symbols and figurative language.

Builds To: Work with symbols and figurative language continues throughout the study of Reading/Literature and Research and increases in complexity.

- A** 14 Bill's horse was named "Lightning" for its —
- F intelligence
 - G power
 - H color
 - J size

Instruction: Provide students many opportunities to identify and paraphrase figurative language found in prose and poetry. Provide students opportunities to recognize symbols and discuss what they might stand for in prose and poetry.

B. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

c) Describe cause-effect relationships and their impact on plot.

Builds To: Work with cause-effect relationships and their impact on plot continues throughout the study of Reading/Literature and Research and increases in complexity.

- B** 15 How did Slewfoot-Sue change in the last stanza from stanza 3?
- A She never saw Pecos Bill again.
 - B She didn't ride horses anymore.
 - C She learned to rope and shoot.
 - D She married Bill.

Instruction: Provide students opportunities to determine the impact of cause-effect relationships on the plot of various literary works.

E

nglish: Reading/Literature and Research Test



A. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

e) Compare and contrast the use of the poetic elements of word choice, dialogue, rhyme, rhythm, and voice.

Builds To: Work with poetic elements continues throughout the study of Reading/Literature and Research and increases in complexity

- A**
- 16 What is the rhyme pattern for each stanza?**
- F** aabc
 - G** abca
 - H** abac
 - J** abcb

Instruction: Have students practice using rhyme and rhythm by reading and writing poetry frequently.

English: Reading/Literature and Research Test



RELEASED ▼ SELECTION

Directions: Read the passage and answer the questions that follow.

Nature's Perfect Flying Machine

- 1 Birds have many extraordinary characteristics, including keen vision and the ability to imitate sounds such as human voices. It is their ability to fly, however, that is their most conspicuous and remarkable trait. Birds are well equipped for soaring through the sky.

Characteristics Enabling Flight

- 2 One characteristic that makes flight possible for birds is the lightness of their bodies. All of a bird's bones are extremely thin, and most are hollow. Many of the bones are fused, a quality that adds strength to the otherwise delicate frame. Also contributing to the bird's lightness is its unusual type of mouth. The beak is a thin layer of horn-like material that has little mass because it lacks teeth or jawbones.
- 3 Another important factor enabling birds to fly is the feather, a feature no other animal group shares. Birds have several different kinds of feathers. Some feathers keep them warm, some are just for adornment, and some (the contour feathers) enable birds to fly. Each contour feather has its own set of muscles that is connected to the bird's wing bones. Contour feathers consist of a stiff shaft with a flat web of smaller shafts protruding from both sides. [See Diagram 1.] The smaller shafts are called barbs. Barbs have rows of even smaller shafts called "barbules" jutting out on either side of them. The barbules of the contour feathers interlock to create a solid surface that can successfully push against the air during flight.

The Mechanics of Flight

- 4 Once in the air, the feathers at the tip of the bird's wing work like the propeller of an airplane to move it forward. In flight, a bird flaps its wings downward to a point that is even with its beak. [See Diagram 2.] At this point, the feathers at the tip of each wing twist at an angle to the rest of the wing so that they point directly forward. As the wing is pulled back for the upstroke, the feathers push against the air which moves the bird's body forward. The remaining upward and backward movement of the wings' upstroke provides another small push forward.
- 5 When a bird's wings are spread, the wing bones and the feathers form a shape that helps the bird to maintain flight. This shape is fairly flat on the bottom and rounded on the top. As air moves past the wing, some flows over the top of the wing and some flows underneath. The wing's curvature causes the air flowing above the upper edge of the wing to move more quickly than the air flowing below the wing. Along with this difference in speed comes a difference in the pressure the air exerts on each side of the wing. The fast-moving air exerts less pressure on the top of the wing than the slower-moving air below the wing. This difference in pressure creates the "lift" needed to push the bird upward.
- 6 Thanks to their super-lightweight body structure and the special way their wings work, birds are the most beautiful and graceful of nature's flying creatures. Even airplanes, which may greatly exceed the power and speed of any animal, cannot match the grace and style of avian flight.

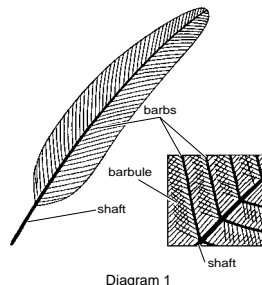


Diagram 1



Diagram 2

English: Reading/Literature and Research Test



Reporting Category: Understand a variety of printed materials/resource materials.

A. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

a) Identify questions to be answered.

Builds To: As students are required to comprehend increasingly complex text, their ability to formulate appropriate questions increases in importance.

A

17 Which question does paragraph 5 answer?

- A What quality of vision do birds possess?
- B What types of feathers do birds have?
- C What is meant by the term "lift"?
- D How high can birds fly?

Instruction: Provide opportunities for students to formulate questions based on text and to locate the answers to student generated and teacher generated questions.

B. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

c) Use context clues to read unfamiliar words.

Builds To: Increased comprehension and vocabulary development.

B

18 In paragraph 6, the word avian means —

- F relating to birds
- G tending to be light
- H the process of flying
- J in a delicate manner

Instruction: Provide students opportunities to determine the meaning of unfamiliar words by using context clues provided in text.

English: Reading/Literature and Research Test



A. Standard of Learning: 7.6 The student will read and understand information from varied sources.

b) Make, confirm, or revise predictions as needed.

Builds To: Work with prediction continues throughout the study of Reading/Literature and Research and increases in complexity.

- A** 19 If a bird's bones were thicker and more solid, a bird *probably* could —
- A fly longer
 - B fly higher
 - C not fly at all
 - D fly faster

Instruction: Discuss and model prediction as a reading strategy and afford students opportunities to make, confirm, and revise predictions, in fiction, non-fiction, and poetry.

B. Standard of Learning: 7.6 The student will read and understand information from varied sources.

d) Summarize what is read.

Builds To: The ability to recognize and create accurate summaries is a requirement which continues throughout the study of Reading/Literature and Research and increases in complexity.

- B** 20 Which is the *best* summary for this selection?
- F A bird's light body and feathers make it well suited for flight, and its wings move in a special way in the air.
 - G When a bird's wings are spread, its wings and feathers form a special shape that helps the bird to maintain flight.
 - H The upward and backward movement of the wing during upstroke helps to push a bird forward as it flies.
 - J The ability of a bird to fly makes it more interesting to read about than any other kind of animal.

Instruction: Provide frequent opportunities for students to summarize orally and in print a variety of texts: fiction, non-fiction, and poetry.

E

nglish: Reading/Literature and Research Test



A. Standard of Learning: 7.10 The student will apply knowledge of resources in preparing written and oral presentations.

b) Use a thesaurus to select more exact descriptive, specific, or effective vocabulary for writing.

Builds To: Skill and competence with the thesaurus continues throughout the study of Reading/Literature and Research and increases in complexity.

A

21 Look at this thesaurus entry.

mass *n.* 1. bulk, heap, mound.
2. company, crowd, gathering.
3. magnitude, size, weight.
4. accumulation, collection, assembly.

Which set of meanings from the thesaurus entry is closest to the meaning of the word mass in paragraph 2 of the selection?

- A accumulation, collection
- B heap, mound
- C company, crowd
- D size, weight

Instruction: Provide frequent opportunities for students to choose appropriate synonyms from a thesaurus.

English: Reading/Literature and Research Test



A. Standard of Learning: 7.10 The student will apply knowledge of resources in preparing written and oral presentations.

c) Use graphic organizers to organize information.

Builds To: Work with graphic organizers continues throughout the study of Reading/Literature and Research and increases in complexity.

A 22 The following chart shows how the information is organized in paragraph 3.

```

graph TD
    A[Kinds of Feathers] --> B[ ]
    A --> C[Adornment]
    A --> D[Flight]
    D --> E[Muscles]
    D --> F[Shaft]
  
```

Which word belongs in the blank?

F Upstroke
G Warmth
H Interlocking
J Solid

Instruction: Have students work with a variety of graphic organizers and identify ways each type can be used to organize information.

B. Standard of Learning: 8.6 The student will analyze mass media messages.

c) Evaluate advertisements, editorials, and feature stories for relationships between intent and factual content.

Builds To: Analysis of mass media continues throughout the Reading/Literature and Research curriculum to enhance students' ability to discern fact from opinion.

B 23 Which of the author's opinions is *best* supported by the facts in this selection?

A Even airplanes can't match the grace of birds in flight.
B Birds are the most beautiful of nature's flying creatures.
C Birds are well equipped for soaring through the sky.
D Flight is the most noteworthy trait of birds.

Instruction: Provide students opportunities to analyze mass media in a variety of written and non-print materials. Provide students opportunities to write essays and/or letters expressing and supporting opinions.

English: Reading/Literature and Research Test



Reporting Category: Understand elements of literature.

A. Standard of Learning: 7.5 The student will read a variety of fiction, nonfiction, and poetry.

b) Analyze relationship between author's style, literary form, and intended impact on reader.

Builds To: Analysis of the relationship among author's style, literary form, and intended impact on the reader continues throughout the study of Reading/Literature and Research and increases in complexity.

A

24 The reader can tell from the style and form of this selection that the author's main purpose is to —

- F** create powerful images
- G** give detailed instructions
- H** tell an entertaining story
- J** present scientific facts

Instruction: Have students analyze the power of author's word choice and its intended impact on the reader in a variety of prose and poetry.

B. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

b) Describe inferred main ideas or themes.

Builds To: Inferring the main idea or theme continues throughout the study of Reading/Literature and Research and increases in complexity.

B

25 Which sentence expresses the main idea of the article?

- A** Birds are uniquely crafted to fly.
- B** Birds have beautiful feathers.
- C** Airplane propellers remind an observer of a bird's wings.
- D** The beaks of birds may break easily.

Instruction: Provide students many opportunities to identify main ideas and themes in various literary works.

English: Reading/Literature and Research Test



RELEASED ▼ SELECTION

Directions: Read the passage and answer the questions that follow.

The Garden

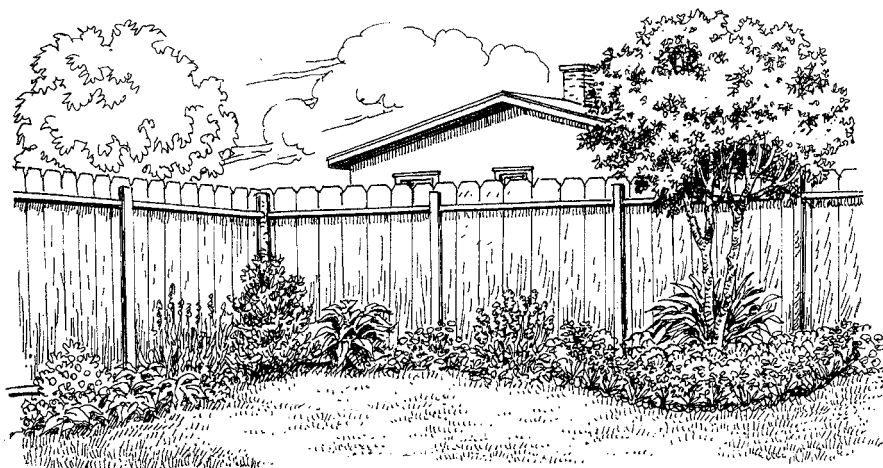
- 1 Luisa was pleased when her mother, Carolina, married Samuel Flores. He had a good sense of humor, and he always took the time to listen if someone wanted to talk. All in all, it was good to have him in the family.
- 2 There was, however, one problem. Samuel had a daughter, Isabel, and Isabel was perfect. She was much older than Luisa, had already graduated from college, was married to a restaurant manager named Alfonse, and had a good job at the telephone company. She and Alfonse had just bought a perfect little yellow house across town from the apartment building where Luisa lived.
- 3 Samuel was proud of his daughter and had a tendency to express his admiration too often. When Luisa earned a *B* on an essay she had written, he said, "Isabel was always such a good writer; she got *A*'s on everything." When Luisa played a familiar melody on her flute, he said, "Isabel played that so well on the piano when she was your age." Sometimes Luisa felt almost invisible, barely noticeable in the shadow of the great Isabel.
- 4 One day, Luisa told Samuel and her mother that she had decided to join the soccer league. "Soccer! That's great!" said Samuel. "Isabel—"
- 5 Luisa couldn't take it anymore! She ran to her room, shut the door, and started picking wilted leaves off her plants.
- 6 Samuel soon knocked on her door.
- 7 "Come in," she said.
- 8 "What's wrong?" he asked.
- 9 "I'm sorry for acting that way," said Luisa, "but you're always comparing me to Isabel, and it really bothers me."
- 10 Samuel wrinkled his eyebrows, thinking, then laughed in a kindly way. "You're right!" he said. "I should apologize. I don't blame you for getting mad at me. I promise to try not to do that anymore. Okay?"
- 11 "Okay," said Luisa.
- 12 Samuel, true to his word, hardly ever mentioned Isabel when his attention was supposed to be on an accomplishment of Luisa's. When he did, he caught himself and quickly stopped.
- 13 Luisa felt better at first, but her relief was only temporary. She was horrified to find herself making the same kinds of comparisons in her own mind! No matter what she did, she assumed that Isabel could do it better.
- 14 One Saturday, a family gathering was held at Isabel's house. The delicious food was catered by the Italian restaurant where Alfonse worked, so the kitchen wasn't even messy. In fact, there wasn't a messy spot in the house, which was, of course, simply but beautifully decorated.
- 15 "Can we see the garden?" asked Luisa, who loved gardens and wished she had one. Isabel blushed, a rare sight indeed. "Well," she said, "the garden was nice when we bought the place, but it looks terrible now. We just don't seem to have green thumbs."

English: Reading/Literature and Research Test

8
GRADE

RELEASED ▼ SELECTION

- 16 Luisa smiled. "Can I help you? I love plants!"
- 17 "You should see Luisa's room," said Samuel. "She has a real gift for growing things."
- 18 Luisa began spending more time at Isabel's, working in the garden as often as she could. Because she was doing what she loved most, gardening didn't seem like work to her.
- 19 As the garden became more and more lovely, the friendship between Luisa and Isabel grew. Soon they were as close as real sisters. Luisa was truly happy in her new family.



A. Standard of Learning: 6.4 The student will read a variety of fiction (realistic, fantasy, historical, and biographical) and nonfiction (expository and argumentative).

a) Use knowledge of literary forms to aid comprehension and predict outcomes.

Builds To: Analysis of literary forms continues throughout the study of Reading/Literature and Research and increases in complexity.

A

26 Which form of literature is this selection?

- F Science fiction story
- G Biography
- H Poem
- J Short story

Instruction: Provide opportunities for students to read a variety of genres and analyze the characteristics inherent in each genre.

English: Reading/Literature and Research Test



A. Standard of Learning: 6.4 The student will read a variety of fiction (realistic, fantasy, historical, and biographical) and nonfiction (expository and argumentative).

c) Distinguish between first- and third-person point of view.

Builds To: Work with point of view continues throughout the study of Reading/Literature and Research and increases in complexity.

A 27 Which point of view does the author use in this selection?

- A First person, Carolina
- B First person, Isabel
- C Third person, Samuel
- D Third person, outside observer

Instruction: Provide students with samples of selections written from various points of view and have them identify the characteristics of each, and the impact on the reader. Provide students with opportunities to rewrite text from a different point of view.

B. Standard of Learning: 7.5 The student will read a variety of fiction, nonfiction, and poetry.

a) Describe setting, plot structure, and theme or conflict.

Builds To: Work with setting, plot structure, and theme/conflict continues throughout the study of Reading/Literature and Research and increases in complexity.

B

28 What is the initiating event in this selection?

- F The introduction of Luisa and Isabel
- G The marriage of Isabel and Alfonse
- H The argument between Luisa and Samuel
- J The marriage of Carolina and Samuel

29 Why is it important to the plot of the selection that Luisa lives in an apartment building?

- A She does not have a garden of her own.
- B It is very far away from Isabel's house.
- C She is unable to grow plants in her room.
- D Her family must live in a very small space.

30 What is Luisa's internal conflict?

- F She can never live up to Isabel's reputation.
- G She has wished for a sister for many years.
- H She is sad because she does not have a garden.
- J She must work hard to control her temper.

Instruction: Have students identify the setting, conflicts, and plot structure in material they have read as a group and individually in class.

English: Reading/Literature and Research Test



A. Standard of Learning: 7.5 The student will read a variety of fiction, nonfiction, and poetry.

b) Analyze relationship between author's style, literary form, and intended impact on reader.

Builds To: Analysis of the relationship among author's style, literary form, and intended impact on the reader continues throughout the study of Reading/Literature and Research and increases in complexity.

A

31 The author's repeated use of the word "perfect" to describe Isabel helps to communicate Luisa's feeling of —

- A resentment
- B admiration
- C appreciation
- D sadness

32 The dialogue in this selection helps to —

- F move the story from scene to scene
- G explain why Carolina does not speak
- H make the characters seem more real
- J describe the setting of the story

Instruction: Have students analyze the power of author's word choice and its intended impact on the reader in a variety of prose and poetry.

B. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

a) Explain the use of symbols and figurative language.

Builds To: Work with symbols and figurative language continues throughout the study of Reading/Literature and Research and increases in complexity.

B

33 What does the author mean by the sentence in paragraph 15, "We just don't seem to have green thumbs"?

- A We prefer to use dried flower arrangements.
- B We don't have a very large garden.
- C We have worked very hard to grow vegetables.
- D We are not very good at growing things.

Instruction: Provide students many opportunities to identify and paraphrase figurative language found in prose and poetry. Provide students opportunities to recognize symbols and discuss what they might stand for in prose and poetry.

E

nglish: Reading/Literature and Research Test



A. Standard of Learning: 8.3 The student will apply knowledge of the characteristics and elements of various literary forms, including short stories, essays, speeches, lyric and narrative poems, plays, and novels.

c) Describe cause-effect relationships and their impact on plot.

Builds To: Work with cause-effect relationships and their impact on plot continues throughout the study of Reading/Literature and Research and increases in complexity.

A

34 How did Luisa change over the course of the selection?

- F** She became more confident in her own strengths and abilities.
- G** She realized that she would never become friends with Isabel.
- H** She decided to participate in more sports activities.
- J** She helped convince her mother to marry Samuel.

Instruction: Provide students opportunities to determine the impact of cause-effect relationships on the plot of various literary works.

English: Reading/Literature and Research Test



RELEASED ▼ SELECTION

Directions: Read the letter and answer the questions that follow.

Letter to the Editor

Dear Editor,

- 1 Brockingham is run by people who are more interested in tourists than its residents. The problem is that the people running the government, and nearly everything else in Brockingham, refuse to accept new ideas. By banning all fast-food restaurants and discount stores, they take away all the places kids can afford to shop.
- 2 These people forget that when they were young, they could go to the South Street Soda Fountain and get an ice-cream soda for 25 cents. Today you can't find an ice-cream soda anywhere in Brockingham for less than \$2! Why? Because the only places selling ice cream in Brockingham are Danker & Phillips, de Chambord, and The Emporium Restaurant. Have you tried buying a hamburger in one of those places? You can get an Emporium Deluxe with lettuce, tomato, cheese, and a pickle for a mere \$6.98! Where can kids go for a snack?
- 3 There is not a single restaurant in Brockingham where a family of four can eat dinner for less than \$100. Add a 15% tip and sales tax and you have spent nearly \$125 to eat a meal you could prepare at home for about \$12. Have you noticed that Brockingham families never dine in Brockingham? But take a look at Parkersburg on a Friday night. It seems as if you're walking down a Brockingham High corridor when you walk down South Main Street in Parkersburg.
- 4 Fast-food restaurants are also a good place for school kids to get an after-school job. Fast-food restaurants are busiest during the early supper hours when students are able to work, whereas the fancy food restaurants cater to late-night diners. Working in one of these establishments requires working shifts that are too late for most students.
- 5 The City Council claims that local merchants, rather than national chains, should benefit from the tourist business. I agree that it is important to support local businesses, but I think the fast-food restaurants would encourage more people to shop in Brockingham. As it is now, most tourists who come to Brockingham stop to eat at low-cost, convenient places in Southport or Regis Landing. How does that help Brockingham food establishments? Many people who stay overnight in Brockingham drive 25 miles to Parkersburg for breakfast at Jiffy Burger. That place is packed every weekend morning. Those profits could be kept in Brockingham.
- 6 Another thing that disturbs me is that we must travel 25 miles to the nearest discount store. If I need a tire for my bike, I have a choice of buying one at Surf and Peddle Sport Shop for \$15 or driving to Parkersburg Discount Center where I can buy the same kind of tire for \$9. When I am in Parkersburg, Dad always fills up the tank of the car, since the same brand of gas is at least 8 cents cheaper there than in Brockingham. Again, I think the ban on all food chains and discount houses is counterproductive for our city.

Wes Woodrow

Wes Woodrow

9th-Grade Student at Brockingham High School

English: Reading/Literature and Research Test



Reporting Category: Understand a variety of printed materials/resource materials.

A. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

c) Use context clues to read unfamiliar words.

Builds To: Increased comprehension and vocabulary development.

A

35 In paragraph 4 of the letter, the word cater means —

- A give orders
- B show preference
- C offer work
- D make excuses

36 In paragraph 6 of the letter, the word counterproductive means —

- F cheap, not expensive
- G surprising, not expected
- H harmful, not helpful
- J doubtful, not sure

Instruction: Provide students opportunities to determine the meaning of unfamiliar words by using context clues provided in text.

B. Standard of Learning: 6.5 The student will demonstrate comprehension of a variety of selections.

d) Draw conclusions and make inferences based on explicit and implied information.

Builds To: Comprehension of increasingly complex and detailed text.

B

37 Information in this letter suggests that the residents of Brockingham spend a lot of time —

- A working at local restaurants
- B dining with friends at the Emporium
- C writing letters to the City Council
- D shopping in Parkersburg

Instruction: Provide students opportunities to draw conclusions and to locate details from a variety of written materials.

English: Reading/Literature and Research Test



A. Standard of Learning: 7.6 The student will read and understand information from varied sources.

c) Distinguish fact from opinion in newspapers, magazines, and other print media.

Builds To: The study of persuasive and factual writing continues throughout the Reading/Literature and Research curriculum to enhance students' ability to discern fact from opinion.

- A** 38 Which is an *opinion* expressed in the letter?
- F It seems as if you're walking down a Brockingham High corridor when you walk down South Main Street in Parkersburg.
 - G Most of these places have shifts that accommodate a student's schedule.
 - H Today you can't find an ice-cream soda anywhere in Brockingham for less than \$2!
 - J When I am in Parkersburg, Dad always fills up the tank of the car. . .

Instruction: Have students examine reading materials for examples of factual and opinionated statements. Provide students opportunities to write argumentative essays in which opinions are supported by facts.

B. Standard of Learning: 8.4 The student will comprehend what is read from a variety of sources.

b) Analyze details for relevance and accuracy.

Builds To: Work with relevance and accuracy continues throughout the study of Reading/Literature and Research and increases in complexity.

- | | |
|--|---|
| <p>B 39 Information in which paragraph of the letter supports the idea that Wes Woodrow is practical with his own money?</p> <ul style="list-style-type: none"> A 3 B 4 C 5 D 6 | <p>40 Which statement from the letter <i>best</i> supports the idea that Wes Woodrow's family has probably lived in Brockingham for a long time?</p> <ul style="list-style-type: none"> F Another thing that disturbs me is that we must travel 25 miles to the nearest discount store. G These people forget that when they were young, they could go to the South Street Soda Fountain and get an ice-cream soda for 25 cents. H The problem is that the people running the government, and nearly everything else in Brockingham, refuse to accept new ideas. J You can get an Emporium Deluxe with lettuce, tomato, cheese, and a pickle for a mere \$6.98! |
|--|---|

Instruction: Provide students materials to examine in order to determine the relevance and accuracy of details.

English: Reading/Literature and Research Test



A. Standard of Learning: 8.6 The student will analyze mass media messages.

b) Describe the possible cause-effect relationships between mass media coverage and public opinion trends.

Builds To: Analysis of mass media continues throughout the Reading, Literature, and Research curriculum to enhance students' ability to discern fact from opinion.

- A** 41 As a result of reading this letter in the newspaper, other people are *most* likely to —
- A demand that the newspaper investigate the concern
 - B write letters of support or opposition
 - C hire high school students to do work after school
 - D purchase goods from local businesses

Instruction: Provide students opportunities to analyze mass media, draw conclusions, and write letters of support or opposition.

B. Standard of Learning: 8.6 The student will analyze mass media messages.

c) Evaluate advertisements, editorials, and feature stories for relationships between intent and factual content.

Builds To: Analysis of mass media continues throughout the Reading/Literature and Research curriculum to enhance students' ability to discern fact from opinion.

- B** 42 One way the writer of this letter tries to convince the reader is by —
- F explaining that someone has to drive him to Parkersburg
 - G telling the names of towns near Brockingham
 - H suggesting that many businessmen have the same opinion
 - J giving specific examples of the high costs in Brockingham

Instruction: Provide students opportunities to analyze mass media in a variety of written and non-print materials. Provide students opportunities to write essays and/or letters expressing and supporting opinions.

English: Writing Test

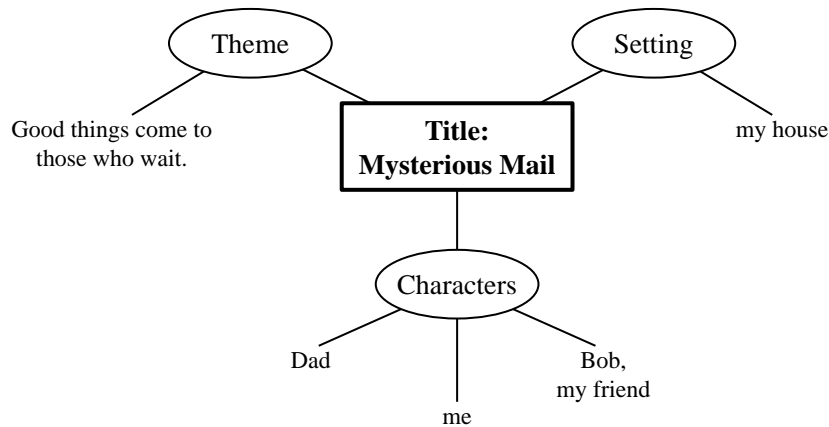
GRADE
8

RELEASED ▼ SELECTION

Mysterious Mail

Chris's English teacher has asked the students to write a short story based on a personal experience.

After thinking about his story, Chris made this web. Use it to answer question 1.



English: Writing Test



Reporting Category: Plan, compose, and revise writing in a variety of forms for a variety of purposes.

A. Standard of Learning: 6.7 The student will write narratives, descriptions, and explanations.

a) Use a variety of planning strategies to generate and organize ideas.

Builds To: High school English requires students to use a variety of prewriting strategies.

A

1 Which of these would be the *most* helpful for Chris to add to his web?

- A The names of people who will read his story
- B The short stories he has read in his English class
- C The way he came up with the idea for his story
- D The events that take place in the story

Instruction: Provide students frequent opportunities to use planning strategies before drafting. Allow students to modify and revise their webs, lists, and outlines to make them more useful planning tools.

English: Writing Test



RELEASED ▼ SELECTION

Here is Chris's rough draft of the first part of his story. Use it to answer questions 2–5.

(1)I always thought it would be cool to be a detective. (2)I finally got my chance. (3)I learned that solving a mystery is a lot tougher than I thought. (4)Just waiting for clues, this is what you have to do sometimes.

(5)It all started when I checked the mail one day after school. (6)Buried among the bills and magazines addressed to my parents, there was a small white card included with the other mail. (7)In big letters, "SOMETHING GOOD is coming soon." (8)That was all it said. (9)It had been postmarked in Cheyenne, Wyoming. (10)I was pretty sure we didn't know anyone from there. (11)There was no signature or return address.

(12)When I showed the strange card to my friend Bob, he said, "Maybe someone's sending you a present."

(13)"No, that couldn't be it," I said. (14)"Maybe I won something! (15)Or maybe it's just a joke."

English: Writing Test



A. Standard of Learning: 6.7 The student will write narratives, descriptions, and explanations.

d) Expand and embed ideas by using modifiers, standard coordination, and subordination in complete sentences.

Builds To: High school English requires students to be able to expand and embed ideas in complete sentences.

A

2 How can Chris *best* combine sentences 2 and 3 without changing their meaning?

- F** I finally got my chance, I learned that solving a mystery is a lot tougher than I thought.
- G** When I finally got my chance, I learned that solving a mystery is a lot tougher than I thought.
- H** Got my chance finally, and learned that solving a mystery is a lot tougher than I thought.
- J** I learned that solving a mystery is a lot tougher than I thought and I finally got my chance.

Instruction: Provide students many opportunities to combine sentences without changing their meaning.

English: Writing Test



A. Standard of Learning: 6.7 The student will write narratives, descriptions, and explanations.

e) Revise writing for clarity.

Builds To: High school English requires students to revise writing until it is clarified.

A

3 How is sentence 4 *best* rewritten?

- A Sometimes you just have to wait for clues.
- B Sometimes just waiting, this is what you have to do for clues.
- C Just waiting sometimes for clues, this is what you have to do.
- D For clues sometimes, you just have to wait for them.

4 Which of these underlined phrases repeats an idea already expressed in that sentence?

- F I always thought it would be cool to be a detective.
- G It all started when I checked the mail one day after school.
- H Buried among the bills and magazines addressed to my parents, there was a small white card included with the other mail.
- J When I showed the strange card to my friend Bob, he said, "Maybe someone's sending you a present."

Instruction: Model revision for students and provide students many opportunities to revise drafts with peer groups and/or independently.

B. Standard of Learning: 8.5 The student will write in a variety of forms, including narrative, expository and persuasive writings.

d) Use standard sentence formation, eliminating comma splices and other nonstandard forms of sentences that distract readers.

Builds To: High school English requires students to use standard sentence formatting in all final products.

B

5 Which of these is *not* a complete sentence?

- A 1
- B 7
- C 10
- D 13

Instruction: Provide students many opportunities to revise work to ensure every sentence is complete and clear.

English: Writing Test



RELEASED ▼ SELECTION

Read the next part of Chris's rough draft and use it to answer questions 6–10. This section has groups of underlined words. The questions ask about these groups of underlined words.

(16)Nothing happened for the next few days. (17)Then, on Thursday, I checked the mail again. (18)Sure enough, there was another white card. (19)The card's message, written in big letters, was "SOMETHING GOOD is on the way."

(20)By now I was eager to know what the good thing was. (21)But no more cards came.

(22)Then, one morning at breakfast, dad asked, "What do you think of this new cereal? (23)I think it tastes real good."

(24)I said, "It's okay, but there's too much stuff in it. (25)I like the nuts fruit, and cornflakes, but not the oat clusters."

(26)Dad said, "The company that makes the cereal sent us a free sample package in yesterday's mail. (27)The name of the cereal is 'SOMETHING GOOD,' " he added.

(28)I couldn't beleive it. (29)All this time, I had been excited about a cereal!

Reporting Category: Edit for correct use of language, grammar, capitalization, punctuation, and spelling.

A. Standard of Learning: 6.7 The student will write narratives, descriptions, and explanations.

f) Edit final copies for correct use of language: subject-verb and pronoun-antecedent agreement, consistent tense inflections, and adverb and adjective usage.

Builds To: High school English requires students to edit writing for proper use of adjectives and adverbs.

A

6 In sentence 23, it tastes real good." is correctly written —

- F** it taste real good."
- G** it tastes really good."
- H** it tastes really well."
- J** as it is

Instruction: Provide students frequent opportunities to edit writing for proper adjective and adverb usage.

English: Writing Test



A. Standard of Learning: 6.7 The student will write narratives, descriptions, and explanations.

g) Edit final copies for writing mechanics: format, capitalization, punctuation, and spelling.

Builds To: High school English requires students to edit writings for correct use of capitalization, punctuation, and spelling.

A

7 In sentence 19, The card's message, written in big letters, is correctly written —

- A The card's message written in big letters,
- B The cards' message, written in big letters,
- C The cards's message, written in big letters
- D as it is

8 In sentence 22, at breakfast, dad asked, "What is correctly written —

- F at breakfast, Dad asked, "What
- G at breakfast, dad asked, What
- H at breakfast, dad asked, "what
- J as it is

9 In sentence 25, nuts fruit, and cornflakes, is correctly written —

- A nuts fruit and cornflakes,
- B nuts fruit, and cornflakes
- C nuts, fruit, and cornflakes,
- D as it is

10 In sentence 28, couldn't beleive is correctly written —

- F could'nt believe
- G couldn't believe
- H couldn't beleave
- J as it is

Instruction: Model for students and provide them many opportunities to edit and correct punctuation, spelling, and capitalization in their own and others' writing.

English: Writing Test



RELEASED ▼ SELECTION

Transcontinental Railroad

Reggie's history teacher has asked the class to write research papers on topics of their choice. Reggie wants to write about the Transcontinental Railroad, which was built to help travelers cross the United States.

Reporting Category: Plan, compose, and revise writing in a variety of forms for a variety of purposes.

A. Standard of Learning: 7.8 The student will develop narrative, expository, persuasive, and technical writings.

a) Apply knowledge of prewriting strategies.

Builds To: High school English requires students to use a variety of prewriting strategies.

A

11 Which of these would *best* help Reggie carry out his research?

- A Asking classmates about their topics
- B Writing out questions about his topic
- C Writing a catchy introduction for his paper
- D Reviewing papers he has written in the past

Instruction: Provide students with opportunities to articulate the process of gathering resources.

English: Writing Test



RELEASED ▼ SELECTION

Here are two drafts of the first part of Reggie's paper. Use both rough drafts to answer questions 12–15.

DRAFT A

At one time, there were few travel choices for people who wanted to cross the country. All of them were slow, uncomfortable, and often treacherous. There had to be a better way, didn't there?

Then trains came along, and people like President Lincoln began to think about building a transcontinental railroad. The railroad could take passengers all the way across the country. The Pacific Railroad Act of 1862 said that one company could lay tracks going east, while another one could lay them going west. The two sets of tracks would be joined in the middle of the country.

No one bothered to say *where* the tracks would join. Since the greedy railroad companies got paid for each mile of track they laid, this gave them an excuse to make themselves rich. Instead of cooperating with each other as they should have, each rushed to lay down as much track as possible.

E

nglish: Writing Test



RELEASED ▼ SELECTION

DRAFT B

In the mid-1800s, it was very hard for people to cross the United States. Travelers who wanted to go from the East Coast to the West Coast had few choices. They could sail around South America and back up the California coast, or they could join a wagon train. Both ways, travel was slow and uncomfortable.

That's when trains came along. Some people dreamed of building a transcontinental railroad. But many others thought this was a ridiculous plan. President Abraham Lincoln was one of the dreamers. In 1862, he signed the Pacific Railroad Act. This act said that California's Central Pacific Company could lay tracks going east. Another company called the Union Pacific Railroad Company could lay tracks west. Union Pacific's tracks would start at the Mississippi River. The two sets of tracks would later be joined.

It was not specified *where* the tracks would join. The railroad companies were paid for each mile of track they laid, so it was to their benefit to delay the joining of the tracks.

English: Writing Test



A. Standard of Learning: 7.8 The student will develop narrative, expository, persuasive, and technical writings.

d) Use clauses and phrases to embed context into sentences.

Builds To: High school English requires students to revise writing to include a variety of sentence structures including compound and complex sentences.

- A** 12 In Draft B, the *best* way to improve the rhythm of paragraph 2 would be to —
- F put the information in chronological order
 - G add more technical language
 - H discuss how trains were invented
 - J vary the sentence structure

Instruction: Provide students with many opportunities to revise writing with attention to embedding clauses and phrases into sentences.

B. Standard of Learning: 8.5 The student will write in a variety of forms, including narrative, expository and persuasive writings.

b) Focus on elaboration and organization.

Builds To: High school English requires students to revise drafts with attention to elaboration, description, and specificity of information.

- | | |
|--|--|
| <p>B 13 What is the main difference between Draft A and Draft B?</p> <ul style="list-style-type: none"> A Draft A contains more descriptive vocabulary. B Draft A provides more elaboration. C Draft B contains more relevant, specific information. D Draft B contains information that does not belong in Reggie's paper. | <p>14 In both drafts, paragraph 2 focuses mainly on —</p> <ul style="list-style-type: none"> F describing the Pacific Railroad Act G providing details about Lincoln's presidency H comparing two different railroad companies J explaining the importance of travel by railroad |
|--|--|

Instruction: Provide students with frequent opportunities to compare drafts and to articulate the differences between them; and to revise drafts with attention to elaboration, description, and specificity of information.

E_{nglish: Writing Test}



A. Standard of Learning: 8.5 The student will write in a variety of forms, including narrative, expository and persuasive writings.

e) Revise writing for word choice, appropriate organization, consistent point of view, and transitions among paragraphs.

Builds To: High school English requires students to use appropriate transitions between sentences and paragraphs.

- A** 15 In both drafts, which of these transitions could *best* be added to the beginning of paragraph 3?
- A Unfortunately,
 - B In addition,
 - C Because of this,
 - D Meanwhile,

Instruction: Provide students frequent opportunities to notice transition words while reading, to use them in drafting, and to select the most appropriate transitions during revision.

E

nglish: Writing Test



RELEASED ▼ SELECTION

Read this next section of Reggie's rough draft and use it to answer questions 16–20. This section has groups of underlined words. The questions ask about these groups of underlined words.

Even getting paid by the mile, both railroad companies constantly complained about not having enough money. At first, both had trouble finding workers. Nothing was harder and more dangerous than railway work, which consisted of such tasks as carving tunnels out of steep mountains. It did not help that workers has been expected to keep laying track even during winter snowstorms! Getting building supplies was also a problem. Wood and iron for the tracks has to be hauled across rivers and up mountains.

After six years of starts and stops, the rails were finally joined. This historic event took place on May 10, 1869, in Promontory summit, Utah, a town so small it had only one street and tents instead of buildings. Hundreds of people showed up to watch railroad officers' attempts to hammer the last spike into place. Then the whole country burst into joyful celebration. Many workers had contributed to making the dream of the Transcontinental Railroad a reality. Now, thanks to them, travelers' ventures across the United States could be made in only a week.

English: Writing Test



Reporting Category: Edit for correct use of language, grammar, capitalization, punctuation, and spelling.

A. Standard of Learning: 7.8 The student will develop narrative, expository, persuasive, and technical writings.

f) Edit final copies to ensure correct use of homonyms, pronoun-antecedent agreement, subject-verb agreement, and verb tense consistency.

Builds To: High school English requires students to have subject-verb agreement in all written work.

<p>A</p> <p>16 How is <u>workers has been expected correctly</u> written?</p> <p>F workers was expected G workers were expected H workers are expected J As it is</p>	<p>17 How is <u>has to be hauled</u> correctly written?</p> <p>A has to be halled B have to be hauled C had to be hauled D As it is</p>
--	---

Instruction: Provide opportunities for students to edit writing for subject-verb agreement.

B. Standard of Learning: 7.8 The student will develop narrative, expository, persuasive, and technical writings.

g) Edit final copies to ensure correct spelling, capitalization, punctuation, and format.

Builds To: High school English requires students to use correct spelling, capitalization, and punctuation in all written work.

<p>B</p> <p>18 How is <u>complaned about not having enough money</u> correctly written?</p> <p>F complaned about not having enuff money G complained about not having enough money H complained about not having enuff money J As it is</p> <p>19 How is <u>This historic event</u> correctly written?</p> <p>A These historic event B This Historic event C This Historic Event D As it is</p>	<p>20 How is <u>Promontory summit, Utah,</u> correctly written?</p> <p>F promontory summit, Utah, G Promontory summit Utah, H Promontory Summit, Utah, J As it is</p>
--	---

Instruction: Provide opportunities for students to edit drafts for punctuation, spelling, and capitalization.

English: Writing Test



In the direct writing component, students write a composition about a topic presented to them in a writing prompt. The writing prompt page also includes a “Checklist for Writers” that lists points for students to keep in mind as they write. Writing compositions are scored in each of the following domains:

- Composing
- Written Expression
- Usage/Mechanics

Scores in the Composing and Written Expression domains are reported as part of the Reporting Category called **Plan, Compose, and Revise Writing in a Variety of Forms for a Variety of Purposes**. Scores in the Usage/Mechanics domain are reported as part of the Reporting Category called **Edit for Correct Use of Language, Capitalization, Punctuation, and Spelling**. A writing prompt from the Spring 2001 administration is shown below.



Grade 8

ENGLISH: WRITING

PROMPT No. 820

Former First Lady Eleanor Roosevelt said, “. . . You must do the thing you think you cannot do.” Based on your experience, do you think Eleanor Roosevelt is right? Write about a time when you did something you thought you could not do. Be sure to be specific.

CHECKLIST FOR WRITERS

- _____ I planned my paper before writing it.
- _____ I revised my paper to be sure that
 - _____ the introduction captures the reader's attention;
 - _____ the central idea is supported with specific information and examples that will be interesting to the reader;
 - _____ the content relates to my central idea;
 - _____ ideas are organized in a logical manner;
 - _____ my sentences are varied in length;
 - _____ my sentences are varied in the way that they begin; and
 - _____ the conclusion brings my ideas together.
- _____ I edited my paper to be sure that
 - _____ correct grammar is used;
 - _____ words are capitalized when appropriate;
 - _____ sentences are punctuated correctly;
 - _____ paragraphs are clearly indicated.
- _____ I checked my paper.

Mathematics Test

GRADE
8

Reporting Category: Number and Number Sense

A. Standard of Learning: 6.1 The student will identify representations of a given percent and describe orally and in writing the equivalence relationship between fractions, decimals, and percents.

Builds To: High school mathematics courses require students to determine relationships and comparisons between quantities.

A 1

The shaded part of the square can be expressed by —

A 0.02

B 20%

C $\frac{1}{4}$

D $\frac{2}{5}$

Instruction: Provide students opportunities to identify representations of a given percent.

B. Standard of Learning: 6.3 The student will explain orally and in writing the concepts of prime and composite numbers.

Builds To: High school mathematics courses require students to know and use prime and composite numbers.

B 2 Which of the following is *not* a prime number?

F 2

G 5

H 17

J 121

Instruction: Provide students opportunities to identify prime numbers and composite numbers.

Mathematics Test

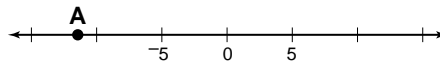


A. Standard of Learning: 6.5 The student will identify and represent integers on a number line.

Builds To: High school mathematics courses require students to identify and represent integers on a number line.

A

3 Which is closest to the location of point A on the number line?



- A -11
- B -7
- C 7
- D 11

Instruction: Provide students opportunities to identify and represent integers on a number line.

B. Standard of Learning: 7.1 The student will compare, order, and determine equivalent relationships between fractions, decimals, and percents, including scientific notation.

Builds To: High school mathematics courses require students to determine relationships and comparisons between quantities.

B

4 If $0.3 < x < 35\%$, which of the following could be the value of x ?

- F $\frac{1}{4}$
- G $\frac{1}{3}$
- H $\frac{1}{2}$
- J 1

Instruction: Provide students opportunities to determine equivalent representatives with decimals, fractions, and percents.

Mathematics Test



A. Standard of Learning: 7.2 The student will find common multiples and factors, including least common multiple and greatest common factor.

Builds To: High school mathematics courses require students to apply the concepts of least common multiple and greatest common factor to work with polynomials.

A

5 Mia has 90 roses and 135 carnations to put into vases. She wants to put the same number of roses and the same number of carnations into each vase. What is the *greatest* number of vases that she will need in order to do this?

- A 5
- B 9
- C 15
- D 45

Instruction: Provide students opportunities to apply knowledge about least common multiples to a problem situation.

B. Standard of Learning: 7.4 The student will explain orally and in writing the following properties of operations with real numbers:

a) the commutative and associative properties for addition and multiplication.

Builds To: High school mathematics courses require students to use the properties of real numbers to justify their steps in solving problems.

B

6 Which is an example of the associative property of multiplication?

F $7 \cdot 0 \cdot 9 = 0$

G $4 \cdot (7 \cdot -3) = 4 \cdot (-3 \cdot 7)$

H $\left(6 \cdot \frac{1}{6}\right) \cdot 3 = 3$

J $5 \cdot (3 \cdot -8) = (5 \cdot 3) \cdot -8$

Instruction: Provide students opportunities to identify applications of the commutative and associative properties for addition and multiplication.

Mathematics Test



A. Standard of Learning: 8.1 The student will use proportions to solve scale-model problems with fractions and decimals.

Builds To: High school mathematics courses require students to use proportions to solve problems.

A

7 A scale distance of 3.5 centimeters on a certain map represents an actual distance of 175 kilometers. What actual distance does 5.7 centimeters on the same map represent?

- A 0.285 km
- B 2.85 km
- C 28.5 km
- D 285 km

Instruction: Provide students opportunities to solve a scale-model problem when given the scale.

B. Standard of Learning: 8.2 The student will simplify numerical expressions involving exponents, using order of operations.

Builds To: High school mathematics courses require students to use the order of operations and exponents.

B

8 What is the value of $3 + 7(2^3 - 6)^2$?

- F 23
- G 31
- H 84
- J 2,503

Instruction: Provide students opportunities to simplify expressions using the order of operations involving exponents and grouping symbols.

Mathematics Test



Reporting Category: Computation and Estimation

A. Standard of Learning: 6.7 The student will use estimation strategies to solve multi-step practical problems involving whole numbers, decimals, and fractions.

Builds To: High school mathematics courses require students to use estimation strategies to determine the reasonableness of results.

- A** 9 Mrs. Adams walks between $\frac{4}{10}$ and $\frac{6}{10}$ mile every day. Which is the *best* estimate of the number of miles she will walk in 30 days?
- A 12
B 15
C 18
D 20

Instruction: Provide students opportunities to estimate an answer to a multi-step problem involving whole numbers, decimals, and/or fractions.

B. Standard of Learning: 7.7 The student will use proportions to solve practical problems, including scale drawings that contain whole numbers, fractions, decimals, and percents.

Builds To: High school mathematics courses require the use of proportions to solve problems.

- B** 10 Chris used a copy machine to enlarge a drawing to 150% of its original size. If the width of the original drawing was 37 centimeters, what is the width of the copy of the drawing?
- F 37.0 cm
G 55.5 cm
H 92.5 cm
J 150.0 cm

Instruction: Provide students opportunities to determine the dimensions of drawings after they have been enlarged by a given percent.

Mathematics Test



A. Standard of Learning: 8.4 The student will solve practical problems involving whole numbers, integers, and rational numbers, including percents. Problems will be of varying complexities, involving real-life data.

Builds To: High school mathematics courses require students to use the problem-solving skills with percents and real-life data in more complex situations.

A

- 11 Pure water boils at 212°F . If a certain chemical is added to the water, the boiling point changes by -28°F . At what temperature does the new liquid boil?

A 240°F
 B 184°F
 C -184°F
 D -240°F

- 12 Randy makes \$200 per week. His employer deducts 4% of his earnings for Randy's medical insurance. How much of his weekly salary does Randy pay for medical insurance?

F \$80
 G \$8
 H \$0.80
 J \$0.08

- 13 Johanna rented a car. Rental costs were \$29.00 per day plus \$0.49 for each mile driven. If she kept the car for 1 day and drove 50 miles, how much did she owe?

A \$29.49
 B \$31.45
 C \$53.50
 D \$78.00

Instruction: Provide students opportunities to solve problems that include discounts, total cost, deductions involving percents, and temperature.

B. Standard of Learning: 8.5 The student will apply the order of operations to evaluate algebraic expressions for given replacement values of the variables.

Builds To: High school mathematics courses require students to evaluate algebraic expressions using the order of operations.

B

- 14 What is the value of $x^2(7 - x) + 2$ when $x = 5$?

F 52
 G 100
 H 152
 J 172

Instruction: Provide students opportunities to evaluate expressions for given replacement values for the variables while applying the order of operations.

Mathematics Test



A. Standard of Learning: 8.6 The student, given a whole number from 0 to 100, will identify it as a perfect square or find the two consecutive whole numbers between which the square root lies.

Builds To: High school mathematics courses require students to work with square roots.

A

15 Between which two consecutive whole numbers does $\sqrt{42}$ lie?

- A 5 and 6
- B 6 and 7
- C 7 and 8
- D 8 and 9

Instruction: Provide students opportunities to locate the two consecutive whole numbers between which a square root lies, given a square root that is not a perfect square.

Reporting Category: Measurement and Geometry

B. Standard of Learning: 6.12 The student will create and solve problems by finding the circumference and/or area of a circle when given the diameter or radius. Using concrete materials or computer models, the student will derive approximations for pi from measurements for circumference and diameter.

Builds To: High school mathematics courses require students to work with circles in more complex problem-solving situations.

B

16 Which is the *closest* to the circumference of a circle with a radius of 2.4 meters?

- F 7.5 m
- G 15.1 m
- H 18.1 m
- J 72.3 m

Instruction: Provide students opportunities to find the circumference and/or area of a circle when given the radius or diameter.

Mathematics Test

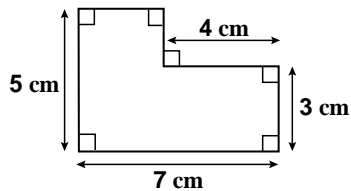
GRADE
8

A. Standard of Learning: 7.8 The student, given appropriate dimensions, will estimate and find the area of polygons by subdividing them into rectangles and right triangles.

Builds To: High school mathematics courses require students to be able to subdivide complex figures to find the area.

A

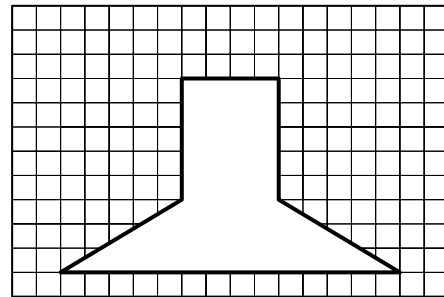
17



What is the area of this figure?

- A 19 cm^2
- B 24 cm^2
- C 27 cm^2
- D 35 cm^2

18 In this scale drawing, each square unit represents 1 square centimeter.



What is the area of the figure represented by the drawing?

- F 15 cm^2
- G 20 cm^2
- H 32 cm^2
- J 47 cm^2

Instruction: Provide students opportunities to find the area of a polygon that can be subdivided into rectangles and a polygon that can be subdivided into triangles and/or rectangles.

Mathematics Test

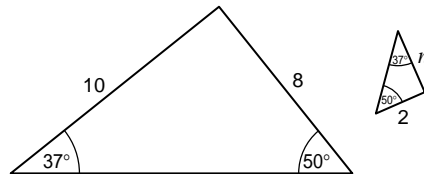


A. Standard of Learning: 7.12 The student will determine if geometric figures (quadrilaterals and triangles) are similar and write proportions to express the relationships between corresponding parts of similar figures.

Builds To: High school mathematics courses require students to apply the concept of similarity to more complex problem-solving situations.

A

19



What is the length of side n on the second triangle?

- A 2
- B 2.5
- C 4
- D 5

Instruction: Provide students opportunities to find the length of a side in similar triangles using proportions.

Mathematics Test

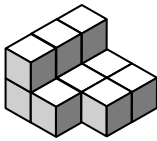
GRADE
8

A. Standard of Learning: 7.13 The student will construct a three-dimensional model using cubes, given the top, side, and/or bottom views, and determine the volume and surface area of the model.

Builds To: High school mathematics courses require students to apply the concepts of volume and surface area to more complex problem-solving situations.

A

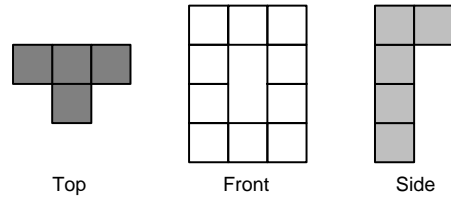
- 20 Each cube in this stack has a volume of 1 cubic unit, and each face of those cubes has an area of 1 square unit.



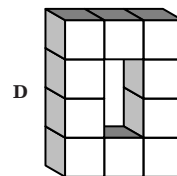
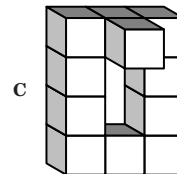
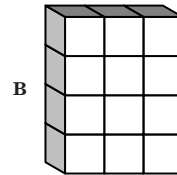
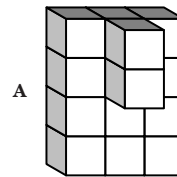
Which could be the surface area of this stack of cubes?

- F 18 sq units
- G 24 sq units
- H 29 sq units
- J 36 sq units

21



This shows 3 different views of a three-dimensional figure constructed from cubes. Which could be this figure?



Instruction: Provide students opportunities to determine a three-dimensional model with cubes when given the top, side, and front views; and determine the surface area of a model.

Mathematics Test

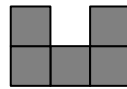
GRADE
8

A. Standard of Learning: 7.13 The student will construct a three-dimensional model using cubes, given the top, side, and/or bottom views, and determine the volume and surface area of the model.

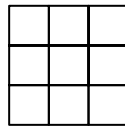
Builds To: High school mathematics courses require students to apply the concepts of volume and surface area to more complex problem-solving situations.

A

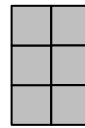
- 22 This shows three different views of a three-dimensional figure constructed from cubes.



Top

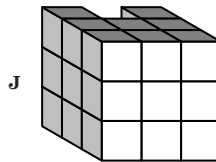
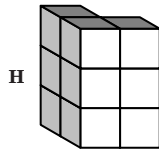
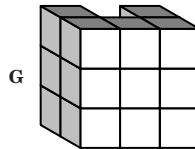
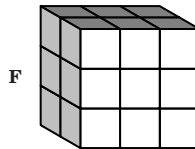


Front



Side

Which of the following could be the figure?



Instruction: Provide students opportunities to determine a three-dimensional model with cubes when given the top, side, and front views; and determine the surface area of a model.

Mathematics Test



A. Standard of Learning: 8.7 The student will verify by measuring and describe the relationships between vertical angles and angles that are supplementary and complementary.

Builds To: High school mathematics courses require students to apply the relationships among angles to more complex problem-solving situations.

A

23 If $\angle QRS$ and $\angle XYZ$ are complementary, which *must* be true?

- A One of the angles can measure between 90° and 180° .
- B The sum of the measures of the angles is 90° .
- C The sum of the measures of the angles is 180° .
- D Both angles must measure more than 90° .

Instruction: Provide students opportunities to identify a statement that describes complementary angles or supplementary angles; and describe the relationships between vertical angles.

Mathematics Test

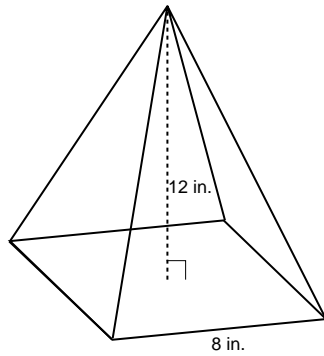
GRADE
8

A. Standard of Learning: 8.8 The student will investigate and solve problems involving volume and surface area of cones and pyramids, using concrete materials and practical situations.

Builds To: High school mathematics courses require students to apply the concepts of volume and surface area to more complex problem-solving situations.

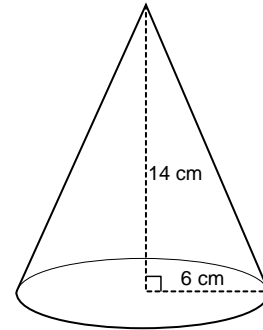
A

- 24 What is the volume of the square-based pyramid shown below?



- F 96 cu in.
- G 256 cu in.
- H 384 cu in.
- J 768 cu in.

25



Which is *closest* to the volume of the cone shown above?

- A 87.9 cm^3
- B 395.6 cm^3
- C 527.5 cm^3
- D 1582.6 cm^3

Instruction: Provide students opportunities, with the aid of the formula sheet, to determine the volume of a pyramid and the volume of a cone.

Mathematics Test

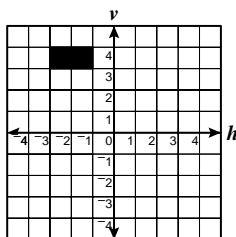
GRADE
8

A. Standard of Learning: 8.9 The student will apply transformations (rotate or turn, reflect or flip, translate or slide, and dilate or scale) to geometric figures represented on graph paper. The student will identify applications of transformations such as tiling, fabric design, art, and scaling.

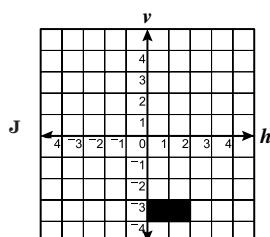
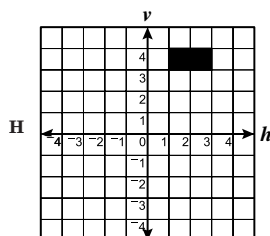
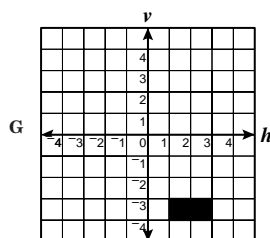
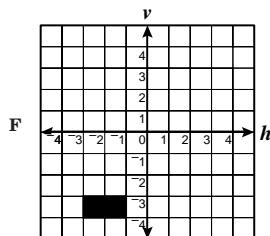
Builds To: High school mathematics courses require students to use transformations in more complex problem-solving situations.

A

26



The dark rectangle is reflected over line v . Which shows this reflection?



Instruction: Provide students opportunities to identify an object reflected over a vertical or horizontal line.

Mathematics Test

GRADE
8

A. Standard of Learning: 8.10 The student will describe, classify, and construct plane figures and solid figures, including prisms, pyramids, cylinders, and cones.

Builds To: High school mathematics courses require students to use information about plane and solid figures in more complex problem-solving situations.

A

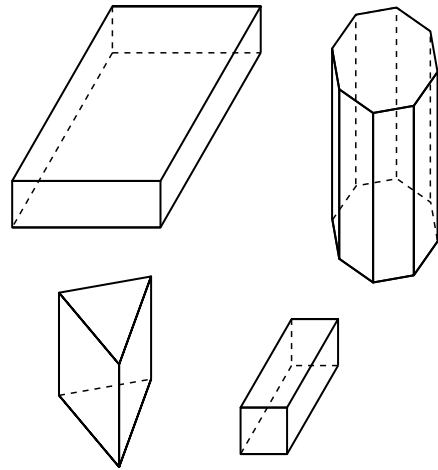
- 27 If Gina measured the length of all 4 sides of the top of her desk and added them together, what would she have?

A The diameter
B The volume
C The perimeter
D The area

- 28 The angles in $\triangle ABC$ measure 27° , 73° , and 80° . What kind of triangle is $\triangle ABC$?

F Equiangular
G Acute
H Obtuse
J Right

29



These figures are all —

A pyramids
B prisms
C cylinders
D cones

Instruction: Provide students opportunities to classify triangles based on angle measure; identify types of figures in drawings; and identify types of measurements of plane figures.

Mathematics Test

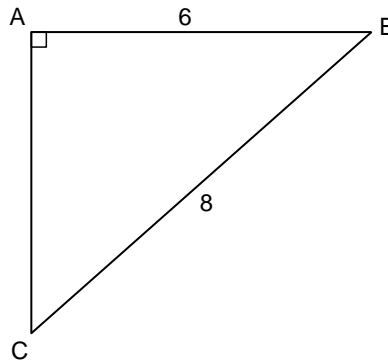
GRADE
8

A. Standard of Learning: 8.11 The student will verify the Pythagorean Theorem by measuring and then applying the Pythagorean Theorem to find the missing length of a side of a right triangle when the lengths of the other two sides are given.

Builds To: High school mathematics courses require students to use the Pythagorean Theorem in more complex problem-solving situations.

A

- 30 In $\triangle ABC$, \overline{AB} measures 6 centimeters and \overline{BC} measures 8 centimeters.



What is the length of \overline{AC} ?

- F 1.41 cm
- G 2 cm
- H 5.29 cm
- J 10 cm

Instruction: Provide students opportunities to use the Pythagorean Theorem to determine the length of a side of a right triangle, given the lengths of the other two sides.

Mathematics Test



Reporting Category: Probability and Statistics

A. Standard of Learning: 6.18 The student, given a problem situation, will collect, analyze, display, and interpret data in a variety of graphical methods, including line, bar, and circle graphs and stem-and-leaf and box-and-whisker plots. Circle graphs will be limited to halves, fourths, and eighths.

Builds To: High school mathematics courses require students to interpret graphical representations to solve more complex problems.

A 31 The graph shows the amount of money earned per week by 5 students in their summer jobs.

Summer Earnings

Student	Earnings per Week
Cory	\$105
Joe	\$60
Mario	\$150
Paula	\$95
Silas	\$195

Tynan earned \$80 per week more than Silas. Which could be her weekly salary?

- A \$115
- B \$250
- C \$275
- D \$290

Instruction: Provide students opportunities to interpret data in graphs.

Mathematics Test



A. Standard of Learning: 6.19 The student will describe the mean, median, and mode as measures of central tendency and determine their meaning for a set of data.

Builds To: High school mathematics courses require students to work with mean, median, and mode as measures of central tendency.

- A** 32 Maria's test scores for the grading period are 78, 50, 80, 83, 81, and 50. Which measure would report the highest result?
- F Mean
 - G Median
 - H Mode
 - J Range

Instruction: Provide students opportunities to identify the measures of central tendency for a data set.

B. Standard of Learning: 7.18 The student will identify and describe the number of possible arrangements of several objects, using a tree diagram or the Basic Counting Principle.

Builds To: High school mathematics courses require students to use the concepts of combinations and permutations.

- B** 33 Joan and Barry are candidates for class president. Orville, Sally, Consuela, Harry, and Rebecca are candidates for vice president. Sam, William, and Frederica are candidates for secretary. How many different combinations of president, vice president, and secretary are possible?
- A 11
 - B 18
 - C 30
 - D 40

Instruction: Provide students opportunities to identify the possible combinations using a tree diagram or the Basic Counting principle.

Mathematics Test

GRADE 8

A. Standard of Learning: 7.20 The student will display data, using frequency distributions, line plots, stem-and-leaf plots, box-and-whisker plots, and scattergrams.

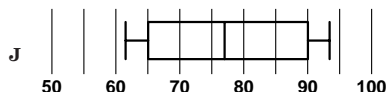
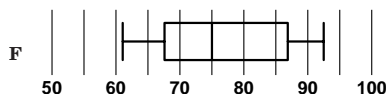
Builds To: High school mathematics courses require the use and interpretation of statistical displays in more complex problem-solving situations.

A

- 34 The list shows the scores made by each member of Jaime's discussion group on the last test.

69 79 62 93 73 81 73 78

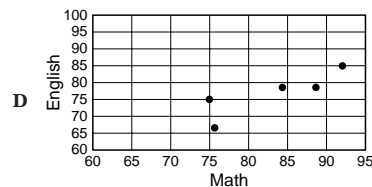
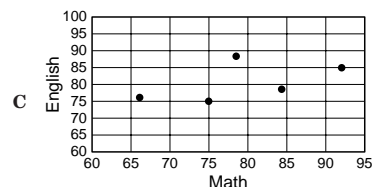
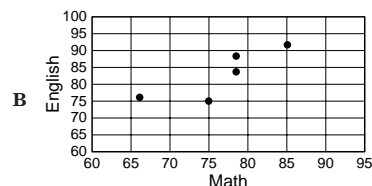
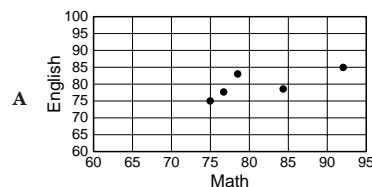
Which box-and-whiskers plot correctly displays the information?



- 35 The table shows the Math and English scores of Art and 4 of his friends.

Student	Math	English
Art	84	78
Bonnie	67	76
Cathy	92	85
Don	75	75
Ellie	78	88

Which scattergram correctly shows the relationship between Math and English scores for the group of friends?



Instruction: Provide students opportunities to display data in a frequency table, box-and-whisker plot, line plot, scattergram, and stem-and-leaf plot; and display the relationship between two variables using a scattergram.

Mathematics Test

GRADE
8

A. Standard of Learning: 7.20 The student will display data, using frequency distributions, line plots, stem-and-leaf plots, box-and-whisker plots, and scattergrams.

Builds To: High school mathematics courses require the use and interpretation of statistical displays in more complex problem-solving situations.

A

36 This is a list of Beth's English homework scores for the grading period.

93, 83, 64, 84, 76, 83, 78, 76, 60, 81

Which stem-and-leaf plot correctly displays the information?

F

Stem	Leaf
6	
7	
8	
9	

G

Stem	Leaf
6	4
7	6, 8
8	1, 3, 4
9	3

H

Stem	Leaf
6	4
7	6, 6, 8
8	1, 3, 3, 4
9	3

J

Stem	Leaf
6	0, 4
7	6, 6, 8
8	1, 3, 3, 4
9	3

Instruction: Provide students opportunities to display data in a frequency table, box-and-whisker plot, line plot, scattergram, and stem-and-leaf plot; and display the relationship between two variables using a scattergram.

Mathematics Test



A. Standard of Learning: 8.12 The student will analyze problem situations, such as games of chance, board games, or grading scales, and make predictions, using knowledge of probability.

Builds To: High school mathematics courses require students to use the appropriate representation of probability in more complex problem-solving situations.

A

- 37 Dave is a member of a bowling league. The table below shows his record for the last 10 games (100 frames) he bowled.

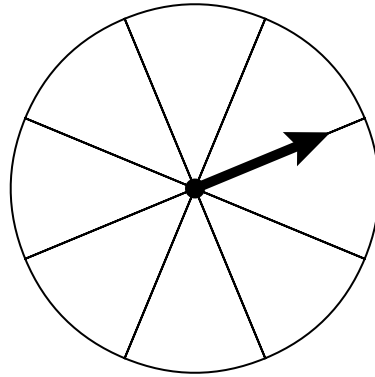
Dave's Bowling Results

Type of Ball	Number of Frames
Strike	12
Spare	26
Gutter ball	3
Other	59

Based on his previous record, what is the probability that Dave will bowl a strike in the next frame?

- A $\frac{3}{100}$
 B $\frac{3}{50}$
 C $\frac{3}{25}$
 D $\frac{6}{25}$

38



How many of the sections of the spinner shown above should be colored blue in order to make the probability of the arrow landing on blue 0.375 in a single spin?

- F 1
 G 3
 H 5
 J 7

Instruction: Provide students opportunities to determine the probability of a given simple event and express the probability as a fraction, decimal, or percent.

Mathematics Test

GRADE
8

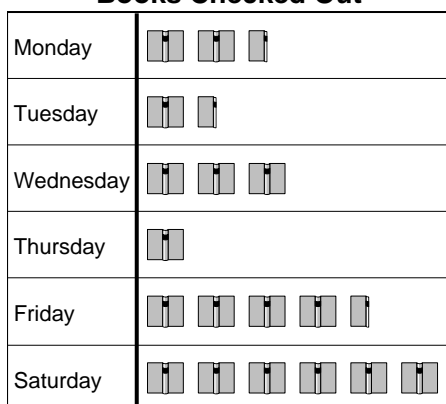
A. Standard of Learning: 8.13 The student will use information displayed in line, bar, circle, and picture graphs and histograms to make comparisons, predictions, and inferences.

Builds To: High school mathematics courses require students to interpret graphical representations to solve more complex problems.

A

- 39 The graph shows the number of books checked out at the public library each day last week.

Books Checked Out



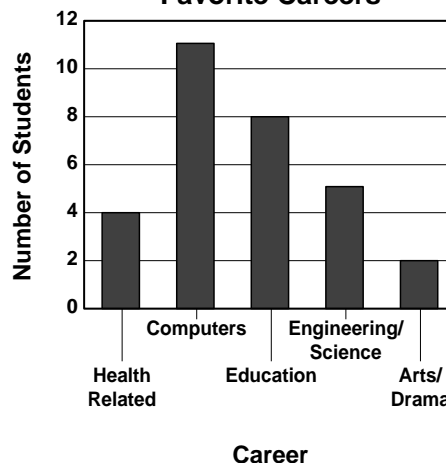
Each represents 10 Books

On which day were there 3 times as many books checked out as on Tuesday?

- A Wednesday
- B Thursday
- C Friday
- D Saturday

- 40 Rhea took a survey of the students in her class to find out about their career interests. The results are shown in the graph.

Favorite Careers



The mode of the data is associated with which career?

- F Health Related
- G Engineering/Science
- H Education
- J Computers

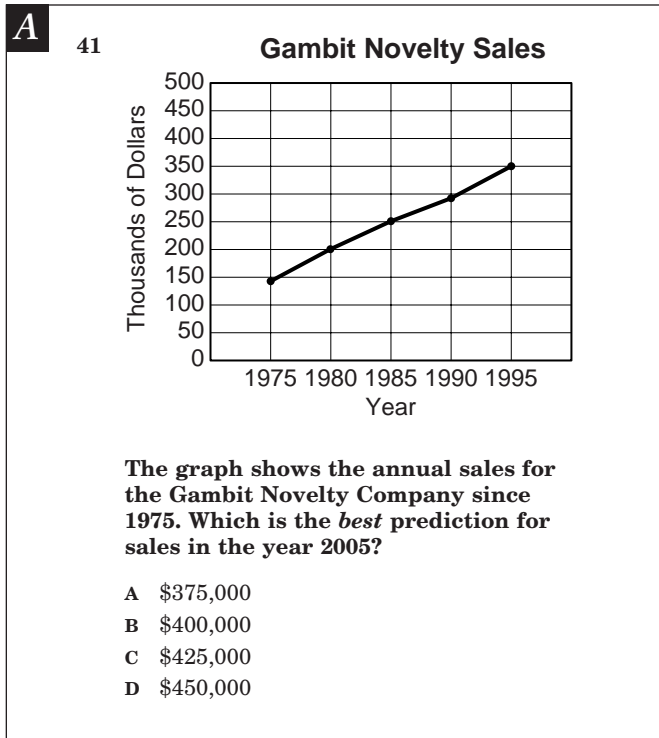
Instruction: Provide students opportunities to use information displayed in graphs to solve problems, to answer questions about central tendency, and to make comparisons, predictions, and inferences.

Mathematics Test



A. Standard of Learning: 8.13 The student will use information displayed in line, bar, circle, and picture graphs and histograms to make comparisons, predictions, and inferences.

Builds To: High school mathematics courses require students to interpret graphical representations to solve more complex problems.



Instruction: Provide students opportunities to use information displayed in graphs to solve problems, to answer questions about central tendency, and to make comparisons, predictions, and inferences.

Mathematics Test



A. Standard of Learning: 8.14 The student will use a matrix to organize and describe data.

Builds To: High school mathematics courses require students to perform operations with data displayed on matrices.

A

- 42 Ada and Jim received awards for placing either first, second, or third in their respective divisions at each of the 12 track meets attended by the team. The table indicates the results.

Meet #	1	2	3	4	5	6	7	8	9	10	11	12
Ada	1st	1st	2nd	3rd	1st	1st	2nd	2nd	1st	1st	3rd	1st
Jim	2nd	2nd	1st	1st	3rd	2nd	3rd	1st	2nd	1st	1st	1st

Which matrix *best* organizes the information in the table?

F

	Ada	Jim
1st	6	7
2nd	4	3
3rd	2	2

G

	Ada	Jim
1st	7	6
2nd	4	3
3rd	2	2

H

	Ada	Jim
1st	7	6
2nd	3	4
3rd	2	2

J

	Ada	Jim
1st	6	6
2nd	5	3
3rd	2	2

Instruction: Provide students opportunities to arrange data into a properly labeled matrix.

Mathematics Test



Reporting Category: Patterns, Functions, and Algebra

A. Standard of Learning: 6.21 The student will recognize, describe, and extend a variety of numerical and geometric patterns.

Builds To: High school mathematics courses require students to work with a variety of numerical and geometric patterns.

A

43 When any term in this sequence is divided by the previous term, the result is always the same.

3, -6, 12, -24, ...

What is the 7th term of this sequence?

- A -192
- B -96
- C 96
- D 192

Instruction: Provide students opportunities to predict a term in a numerical or geometric pattern.

Mathematics Test



A. Standard of Learning: 6.22 The student will investigate and describe concepts of exponents, perfect squares, and square roots, using calculators to develop the exponential patterns. Patterns will include zero and negative exponents, which lead to the idea of scientific notation. Investigations will include the binary number system as an application of exponents and patterns.

Builds To: High school mathematics courses require students to work with exponents and square roots in solving more complex problems.

A

44 $3^4 = 81$

$3^3 = 27$

$3^2 = 9$

$3^1 = 3$

$3^0 = 1$

$3^{-1} = \frac{1}{3}$

$3^{-2} = \frac{1}{9}$

What is the value of 3^{-4} ?

F $\frac{1}{6}$

G $\frac{1}{24}$

H $\frac{1}{27}$

J $\frac{1}{81}$

Instruction: Provide students opportunities to extend an established pattern and determine the value of a negative exponent.

Mathematics Test



A. Standard of Learning: 7.23 The student will write verbal expressions/sentences as algebraic expressions/equations.

Builds To: High school mathematics courses require that the students translate between verbal expressions/sentences and algebraic expressions/equations in solving more complex problems.

A

45 Which means “6 less than 5 times a number is 4 more than 3 times that number”?

- A $5n - 6 = 3n + 4$
- B $5(n - 6) = 3(n + 4)$
- C $6 - 5n = 4 + 3n$
- D $5(3n + 4) = 6$

46 Working together, Joy and Steve collected 39 pounds of aluminum cans for recycling. If Joy collected j pounds, which of the following shows the number of pounds collected by Steve?

- F $j + 39$
- G $j - 39$
- H $39 - j$
- J $39j$

Instruction: Provide students opportunities to translate a verbal sentence or expression into an algebraic sentence or expression.

B. Standard of Learning: 7.24 The student will use the following algebraic terms appropriately in written and/or oral expression: equation, inequality, variable, expression, term, coefficient, domain, and range.

Builds To: High school mathematics courses require students to use mathematical terms.

B

47 Which of the following is *not* true?

- A $3x - 8$ is an expression with one variable.
- B $6x + 2y - 7$ is an expression with 3 terms.
- C In the expression, $4x + 6y$, the coefficient of x is 4.
- D $5x + 4 = 39$ is an expression.

Instruction: Provide students opportunities to identify the parts contained within an example of a mathematical term.

Mathematics Test



A. Standard of Learning: 7.25 The student will

a) solve two-step linear equations and inequalities in one variable, using strategies involving inverse operations and integers.

Builds To: High school mathematics courses require students to apply the skills for solving equations and practical problems.

A

48 What value of x satisfies the following?

$$4x + 12 = 100$$

- F 13
- G 22
- H 28
- J 37

50 What is the solution to $\frac{1}{2}x + 3 = 7$?

- F 2
- G 4
- H 5
- J 8

49 When 10 is added to the product of 5 and a number, the result is 50. What is the number?

- A 5
- B 8
- C 10
- D 12

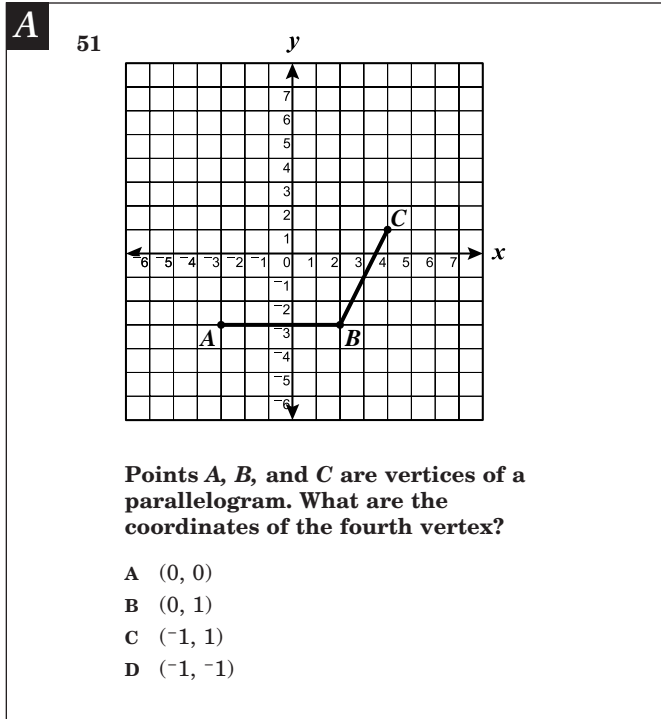
Instruction: Provide students opportunities to solve practical problems requiring the use of a two-step linear equation.

Mathematics Test

GRADE
8

A. Standard of Learning: 7.26 The student will identify and graph ordered pairs in the four quadrants of a coordinate plane.

Builds To: High school mathematics courses require students to use graphing in problem-solving situations.



Instruction: Provide students opportunities to locate a point on a graph in four quadrants and to name the coordinates of the point.

Mathematics Test



A. Standard of Learning: 8.15 The student will investigate and describe functional relationships, including the number of sides of a regular polygon and the maximum number of possible diagonals, expressing the algebraic concept of the number of diagonals of the n th-sided polygon.

Builds To: High school mathematics courses require students to use functional relationships.

A

- 52 The table shows some elements of a function.

n	?
1	1
2	5
3	9
4	13

What is the missing rule in this table?

- F $2n - 1$
 G $2n + 1$
 H $3n$
 J $4n - 3$

- 53 The table shows some elements of a function.

n	1	2	3	4
?	$\frac{3}{2}$	$\frac{4}{2}$	$\frac{5}{2}$	$\frac{6}{2}$

What is the missing rule in this table?

- A $2n$
 B $\frac{n + 2}{2}$
 C $\frac{2n + 1}{2}$
 D $3n$

Instruction: Provide students opportunities to determine the functional relationship between two variables in a problem situation, and to determine the functional relationship when the elements are displayed in a table.

Mathematics Test



A. Standard of Learning: 8.16 The student will solve multi-step equations in one variable.

Builds To: High school mathematics courses require students to apply the skills for solving equations in one variable to more complex problem-solving situations.

A

54 If $\frac{3}{4}(x - 4) = 9$, what is the value of x ?

F 8

G 12

H 16

J $17\frac{1}{3}$

56 What is the solution to $10x + 13 = 17$?

F $x = 0.3$

G $x = 0.4$

H $x = 3.0$

J $x = 4.0$

55 What is the solution to $5a + 11 + 3a - 7 = -4$?

A $a = -\frac{11}{4}$

B $a = -\frac{7}{4}$

C $a = -1$

D $a = 0$

Instruction: Provide students opportunities to solve multi-step equations in one variable.

Mathematics Test

GRADE
8

A. Standard of Learning: 8.17 The student will graph a linear equation in two variables on the coordinate plane, using a table of ordered pairs.

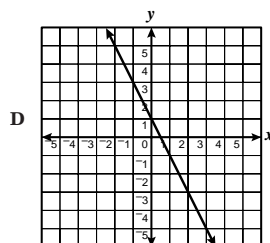
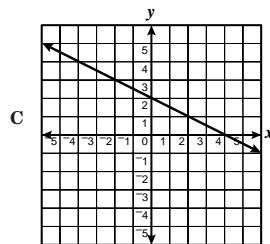
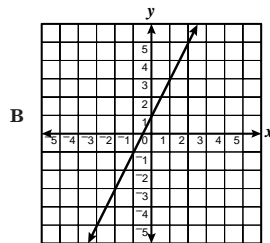
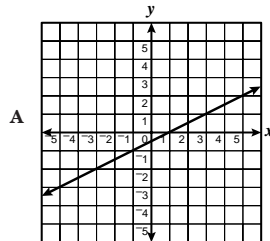
Builds To: High school mathematics courses require students to be able to graph in the coordinate plane.

A

57

x	y
2	5
0	1
-2	-3

Which graph shows a line that contains the points in the table of ordered pairs?



Instruction: Provide students opportunities to graph a line using a table of ordered pairs.

Mathematics Test



A. Standard of Learning: 8.19 The student will create and solve problems using proportions, formulas, and functions.

Builds To: High school mathematics courses require students to use proportions, formulas, and functions in more complex problem solving.

A

- 58 Eric is twice as old as his brother Lucas. If 4 is subtracted from Eric's age and 4 is added to Lucas's age, their ages will be equal. What are the boys' ages now?

F 12 and 6
G 14 and 7
H 16 and 8
J 18 and 9

- 60 Roxanne's car used 4.8 gallons of gasoline to drive 124 miles. If Roxanne has 180 more miles to go, which is *closest* to the additional number of gallons of gasoline the car will use to complete the trip?

F 2.5
G 7.0
H 7.3
J 14.1

- 59 A rock that weighed 1.2 pounds on the moon weighed 7.06 pounds on Earth. About how much would an astronaut who weighs 174 pounds on Earth weigh on the moon?

A 14.5 lbs
B 24.65 lbs
C 29.58 lbs
D 1,023.53 lbs

Instruction: Provide students opportunities to solve problems using the distance and other formulas, using functional relationships found in a pattern, and using a proportion.

Science Test

8

GRADE

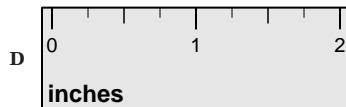
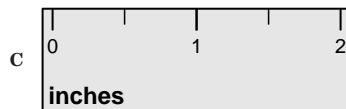
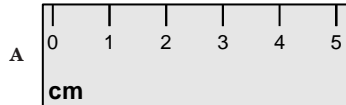
Reporting Category: Scientific Investigation

A. Standard of Learning: 6.1 The student will plan and conduct investigations in which
d) precise and approximate measures are recorded.

Builds To: Continued student achievement in science requires the understanding and use of metric measures in increasing sophistication.

A

- 1 An experiment was set up to measure the distance a snail would travel in 5 minutes. Which of these rulers should be used to give the most precise measurement?



Instruction: Provide students with opportunities to make precise and approximate metric measures while conducting classroom and field investigations.

Science Test

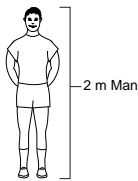
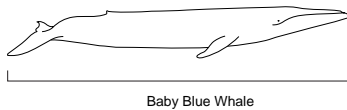
GRADE
8

A. Standard of Learning: 6.1 The student will plan and conduct investigations in which
e) scale models are used to estimate distance, volume, and quantity.

Builds To: Continued student achievement in science requires fluency with metric measures and estimation skills.

A

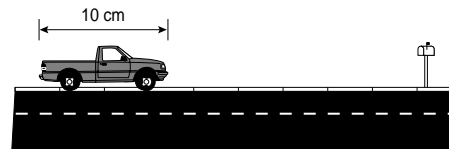
2



According to the scale shown above,
what is the approximate length of the
baby blue whale?

- F 2 meters
- G 4 meters
- H 6 meters
- J 10 meters

3



In the scale model above, one
centimeter is equal to one-half of a
meter. The mailbox is 2 truck lengths
away from the model truck. How far
away is the mailbox from the truck on
the real street?

- A 5 meters
- B 10 meters
- C 15 meters
- D 20 meters

Instruction: Provide students with opportunities to estimate length, volume, and quantity while planning and conducting classroom and field investigations.

Science Test



A. Standard of Learning: 6.1 The student will plan and conduct investigations in which
f) hypotheses are stated in ways that identify the independent (manipulated) and dependent (responding) variables.

Builds To: Continued student achievement in science requires a thorough understanding of experimental design, especially hypothesis formation and the identification of dependent and independent variables.

A

4 A student wishes to test the hypothesis that adding antifreeze to water lowers the freezing point of the water. What would be the dependent (responding) variable?

- F** Amount of water put into a container
- G** Amount of antifreeze added to the water
- H** Temperature at which the water/antifreeze mixture freezes
- J** Type of thermometer used to measure the freezing point

Instruction: Provide students with opportunities to engage in a range of inquiry activities where hypotheses, variables, and constants are identified and analyzed.

B. Standard of Learning: 6.1 The student will plan and conduct investigations in which
i) data are collected, recorded, analyzed, and reported using appropriate metric measurement.

Builds To: Continued student achievement in science requires the understanding and use of metric measures in increasing sophistication.

B

5 Which of the following does *not* use metric units to measure the density of a solution?

- A** 10.5 grams/milliliter
- B** 1.56 pounds/fluid ounce
- C** 1050 kilograms/cubic meter
- D** 1.05 grams/cubic centimeter

Instruction: Provide students with opportunities to collect and record metric measures while conducting classroom and field investigations.

Science Test



A. Standard of Learning: 6.2 The student will demonstrate scientific reasoning and logic. Key concepts include

a) ideas are investigated by asking for and actively seeking information.

Builds To: Continued student achievement in science requires the active understanding of appropriate information sources for specific purposes.

- A** 6 **What type of animals live in a wetland?**
- Which type of report would probably provide the most accurate answer to the above question?**
- F** "Water Quality in Wetlands," published by the United States Geological Survey
 - G** "Endangered Species in Our Wetlands," by a reporter for the Daily Globe Newspaper
 - H** "Birds of Wetlands" in *Science*, the journal for the American Association for the Advancement of Science
 - J** "Organisms in Wetlands," a report on the internet by the Chesapeake Bay Foundation

Instruction: Provide students with opportunities to research science questions, problems, and issues using a range of print and electronic media. This includes helping students develop skills to differentiate logically among potential resources.

Science Test

GRADE
8

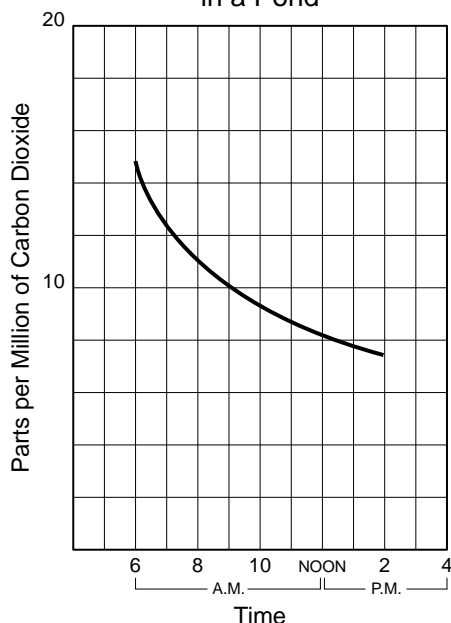
A. Standard of Learning: 7.1 The student will plan and conduct investigations in which
i) continuous line graphs are constructed, interpreted, and used to make predictions.

Builds To: Continued student achievement in science requires fluency with constructing, interpreting, and making logical predictions from continuous line graphs.

A

7

**Carbon Dioxide Levels
in a Pond**

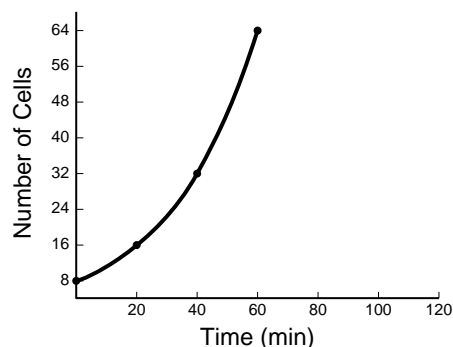


The graph shows the relationship between the time of day and the amount of carbon dioxide in a certain pond. Which of these best describes the relationship?

- A During the morning hours, there is less carbon dioxide released by fish.
- B During the morning hours, there is less carbon dioxide found in the pond.
- C There is more carbon dioxide released by animals later in the day.
- D There is more carbon dioxide used up by algae later in the day.

8

Growth Curve of Bacteria



The picture shows the growth curve of a bacterial population. According to this information, the bacterial population doubles every —

- F 3 minutes
- G 20 minutes
- H 30 minutes
- J 60 minutes

Instruction: Provide students with opportunities to construct, interpret, make predictions and/or draw conclusions from continuous line graphs.

Science Test

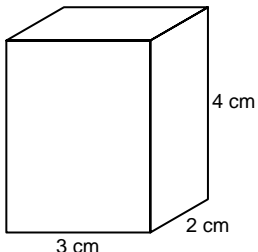


A. Standard of Learning: 8.1 The student will plan and conduct investigations in which

a) length, mass, volume, density, temperature, weight, and force are accurately measured and reported using the International System of Units (SI - metric).

Builds To: Continued student achievement in science requires a thorough understanding of metric measures especially in their application to the concept of density.

A 9 Density = $\frac{\text{mass}}{\text{volume}}$
 Mass = 12 g



The density of this box is —

A 0.5 g/cm³
 B 1.0 g/cm³
 C 1.5 g/cm³
 D 2.0 g/cm³

Instruction: Provide students with opportunities to measure the volume and mass of objects and calculate their densities.

B. Standard of Learning: 8.1 The student will plan and conduct investigations in which

b) triple beam and electronic balances, thermometers, metric rulers, graduated cylinders, and spring scales are used to gather data.

Builds To: Continued student achievement in science requires a thorough understanding of basic measurement tools and what they measure. Fluency with measures of mass, volume, and force are basic to more complex science applications in the Earth sciences, biology, and physics.

B 10 A student wishes to measure the mass of an object. Which instrument would be most useful?

F Triple beam balance
 G Graduated cylinder
 H Metric ruler
 J Erlenmeyer flask

Instruction: Provide students with opportunities to measure the mass of objects using a range of tools including electronic and triple beam balances.

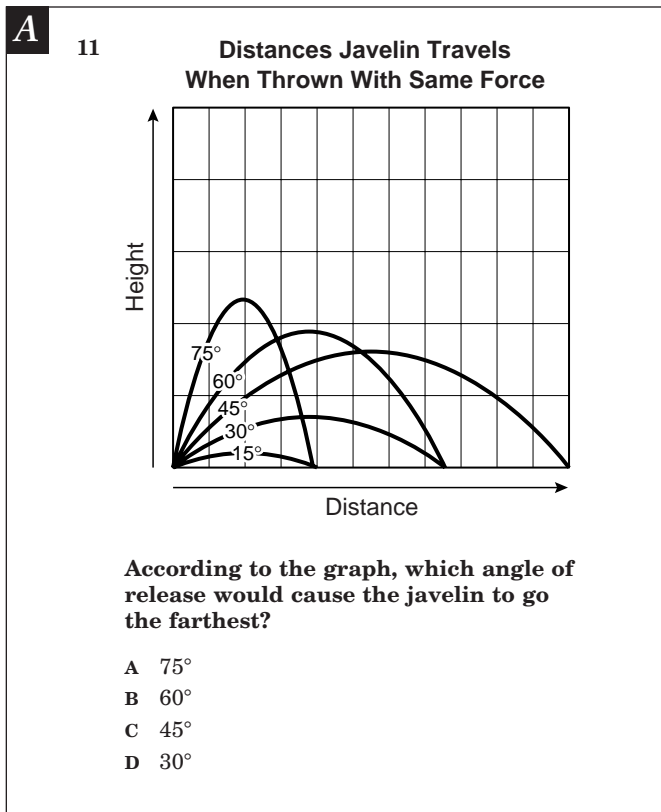
Science Test

GRADE
8

A. Standard of Learning: 8.1 The student will plan and conduct investigations in which

c) data from experiments are recorded and interpreted from bar, line, and circle graphs.

Builds To: Continued student achievement in science requires fluency with interpreting and analyzing information from line, bar and circle graphs. Graphical representations of data increase in complexity in both mathematics and science applications.



Instruction: Provide students with opportunities to construct, interpret, make predictions and/or draw conclusions from line, bar, and circle graphs.

Science Test

GRADE
8

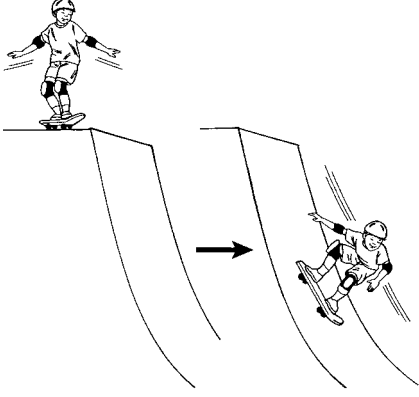
Reporting Category: Force, Motion, Energy, and Matter

A. Standard of Learning: 6.3 The student will investigate and understand sources of energy and their transformations. Key concepts include

a) potential and kinetic energy.

Builds To: Continued student achievement in science requires a basic understanding of potential and kinetic energy and the relationship between the two.

A 12



The diagram consists of two separate illustrations of a skateboarder on a ramp, connected by a right-pointing arrow. In the first illustration on the left, the skateboarder is at the top of a curved ramp, standing still with arms outstretched. In the second illustration on the right, the skateboarder is at the bottom of a similar curved ramp, leaning forward and moving quickly, as indicated by motion lines behind the skateboard. This sequence demonstrates the transformation of potential energy into kinetic energy.

Which type of energy change is occurring in the pictures above?

- F Mechanical energy to chemical energy
- G Potential energy to kinetic energy
- H Chemical energy to heat energy
- J Solar energy to nuclear energy

Instruction: Provide students with opportunities to identify and analyze examples of potential and kinetic energy in home, school, and work setting.

Science Test



A. Standard of Learning: 6.3 The student will investigate and understand sources of energy and their transformations. Key concepts include

c) energy transformations (mechanical to electrical, electrical to heat/light, chemical to light, and chemical to electrical/light).

Builds To: Continued student achievement in science requires a thorough understanding of basic energy transformations. This builds to such important concepts as energy transfer in the atmosphere, energy flow through ecosystems, and energy transformations in chemical reactions.

- A**
- 13 A battery is placed inside a flashlight and then the flashlight is turned on. The chemical energy of the battery is changed into all of the following forms of energy *except* —
- A electrical energy
 - B heat energy
 - C light energy
 - D mechanical energy

Instruction: Provide students with opportunities to investigate various energy transformations including mechanical to electrical, electrical to heat, and electrical to light.

B. Standard of Learning: 6.4 The student will investigate and understand basic characteristics of electricity. Key concepts include

a) electrical energy can be produced from a variety of energy sources and can be transformed into almost any other form of energy.

Builds To: Continued student achievement in science requires a basic understanding of electrical energy, how it is produced, and its transformation to other forms of energy. Electrical energy-related concepts are further developed in the high school program, especially in physics.

- B**
- 14 Solar cells are used to turn sunlight into —
- F inertia
 - G force
 - H magnetism
 - J electricity

Instruction: Provide students with opportunities to investigate the production of electricity from solar cells. Students should build simple circuits with solar cells connected to such things as motors, buzzers, and light bulbs.

Science Test

GRADE
8

A. Standard of Learning: 6.4 The student will investigate and understand basic characteristics of electricity. Key concepts include

c) currents are either alternating or direct.

Builds To: Continued student achievement in science requires a broad understanding of electrical energy concepts. These concepts are further developed in the high school program, especially in physics.

A 15 **A direct electrical current is different from an alternating current because only the direct electrical current —**

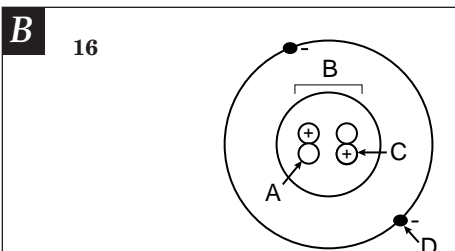
- A produces a high voltage
- B flows without resistance
- C allows the flow of electrons in one direction
- D can be converted to other forms of energy

Instruction: Provide students with opportunities to investigate the differences between alternating and direct current.

B. Standard of Learning: 6.5 The student will investigate and understand that all matter is made up of atoms. Key concepts include

a) atoms are made up of electrons, protons, and neutrons.

Builds To: Continued student achievement in science requires an increasingly sophisticated understanding of the atom and its constituent particles. Concepts related to the atom are further developed and utilized in the high school program, especially in chemistry.



In this atomic model, point A represents —

- F a proton
- G a nucleus
- H a neutron
- J an electron

Instruction: Provide students with opportunities to investigate the structure and constituent particles of the atom using appropriate models and representations.

Science Test



A. Standard of Learning: 6.5 The student will investigate and understand that all matter is made up of atoms. Key concepts include

b) atoms of any element are alike but are different from atoms of other elements.

Builds To: Continued student achievement in science requires understanding of the atom and its constituent particles. Concepts related to the atom form the basis for many key science ideas and are further developed throughout the high school program.

A

17 Which of these *best* shows that calcium is different from all other elements?

- A Its positive electrical charge
- B Its presence in milk
- C Its number of protons
- D Its ability to combine with oxygen

Instruction: Provide students with opportunities to understand the significance of the number of protons in an atom.

B. Standard of Learning: 6.6 The student will investigate and understand how to classify materials as elements, compounds, or mixtures. Key concepts include

a) mixtures can be separated by physical processes.

Builds To: Continued student achievement in science requires a basic understanding of elements, mixtures, and compounds and how they differ. These concepts form the basis for many key ideas in high school science.

B

18 Which of these can be separated by using a magnet?

- F A mixture of sand and salt
- G Rust formed from iron and oxygen
- H A compound of hydrogen and sulfur
- J A mixture of sand and bits of iron

Instruction: Provide students with opportunities to separate various kinds of mixtures.

Science Test



A. Standard of Learning: 6.6 The student will investigate and understand how to classify materials as elements, compounds, or mixtures. Key concepts include

c) elements cannot be separated by physical or chemical means.

Builds To: Continued student achievement in science requires an understanding of elements.

A

19 Which of the following materials is composed of only one kind of atom?

- A Water
- B Helium
- C Air
- D Sugar

Instruction: Provide students with opportunities to differentiate between elements and compounds.

B. Standard of Learning: 8.2 The student will investigate and understand the basic nature of matter. Key concepts include

a) the particle theory of matter.

Builds To: Continued student achievement in science requires students to understand the basics of the particle theory of matter.

B

20 Gases are much more compressible than liquids. According to the particle model of matter, gases are more easily compressed into smaller volumes because the particles in gases are —

- F smaller
- G more active
- H farther apart
- J filled with air

Instruction: Provide students with opportunities to investigate the particle theory of matter using a range of classroom inquiry activities including interpreting diagrams and models.

Science Test



A. Standard of Learning: 8.2 The student will investigate and understand the basic nature of matter. Key concepts include

b) elements, compounds, mixtures, acids, bases, salts, organic, inorganic, solids, liquids, and gases.

Builds To: Continued student achievement in science requires a basic understanding of elements and compounds. These concepts form the basis for many key ideas in high school science.

A 21 **Compounds are made up of more than one element. Which of the following represents a compound?**

- A H_2
- B NH_3
- C O_3
- D N_2

Instruction: Provide students with opportunities to distinguish between elements and compounds on the basis of their chemical formulae.

Science Test



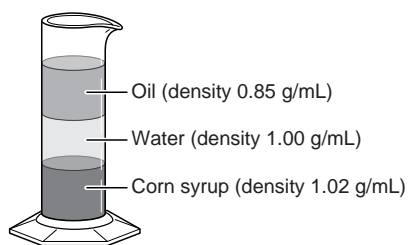
A. Standard of Learning: 8.2 The student will investigate and understand the basic nature of matter. Key concepts include

d) physical properties (shape, density, solubility, odor, melting point, boiling point, color).

Builds To: Continued student achievement in science requires a thorough understanding of density.

A

22



Density Column

Densities of Some Unknowns	
Liquids	Density (g/mL)
Sample A	1.02
Sample B	0.96
Sample C	1.15
Sample D	0.82

Students measured and recorded the density of 4 samples. Using the density column and the data table shown above, which of the samples will probably float on top of the oil?

- F Sample A
- G Sample B
- H Sample C
- J Sample D

Instruction: Provide students with opportunities to build and interpret density columns using common household liquids.

Science Test



A. Standard of Learning: 8.2 The student will investigate and understand the basic nature of matter. Key concepts include

e) chemical properties (acidity, basicity, combustibility, reactivity).

Builds To: Continued student achievement in science requires a basic understanding of common chemical properties including combustibility.

- A** 23 Which property is required of a liquid in order for it to be a good fuel?
- A Its acidity
 - B Its combustibility
 - C Its density
 - D Its boiling point

Instruction: Provide students with opportunities to understand that combustibility is a chemical property.

Science Test



B. Standard of Learning: 8.4 The student will investigate and understand how to use the periodic table of elements to obtain information. Key concepts include

a) symbols, atomic numbers, atomic mass, chemical families, periods, valence numbers, metals, metalloids, and nonmetals.

Builds To: Continued student achievement in science requires a core understanding of the periodic table and how to find and interpret basic information including atomic mass.

B 24

5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.0067
13 Al Aluminum 26.9815	14 Si Silicon 28.0855	15 P Phosphorous 30.97376

KEY

17 Cl Chlorine 35.453	Atomic Number Symbol Name Average Atomic Mass
--------------------------------	--

Which of these elements has the greatest average atomic mass?

F B
G C
H N
J Al

Instruction: Provide students with opportunities to determine the atomic mass of various elements using the periodic table.

Science Test

GRADE
8

A. Standard of Learning: 8.4 The student will investigate and understand how to use the periodic table of elements to obtain information. Key concepts include

a) symbols, atomic numbers, atomic mass, chemical families, periods, valence numbers, metals, metalloids, and nonmetals.

Builds To: Continued student achievement in science requires a core understanding of the periodic table and the organization of elements.

A 25

Period

Group

1 2 13 14 15 16 17 18

1 H He

2 Li Be B C N O F Ne

3 Na Mg Al Si P S Cl Ar

4 K Ca Sc Ti Zn Ga Ge As Se Br Kr

5 Rb Sr Y Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I Xe

6 Cs Ba * Hf Ta W Re Os Ir Pt Au Hg Tl Pb Bi Po At Rn

7 Fr Ra †

alkali metals

alkaline earth metals

halogens

noble gases

Which element is an alkali metal?

A K

B Mg

C Al

D Ag

Instruction: Provide students with opportunities to interpret information from the periodic table.

Science Test



A. Standard of Learning: 8.5 The student will investigate and understand changes in matter and the relationship of these changes to the Law of Conservation of Matter and Energy. Key concepts include

a) physical changes (effect of temperature on state, particle size on solubility, and temperature on solubility).

Builds To: Continued student achievement in science requires a basic understanding of physical changes including factors that effect how easily certain materials will be dissolved.

A

26 A solution may be prepared by dissolving crystals of a salt in water. Which of the following would probably *not* affect the rate of solubility?

- F** Reducing the air pressure on the solution
- G** Grinding the crystals to make them smaller
- H** Stirring the water after adding the crystals
- J** Increasing the temperature of the water

Instruction: Provide students with opportunities to dissolve common substances such as table salt under various conditions.

Science Test

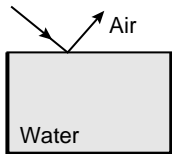
GRADE
8

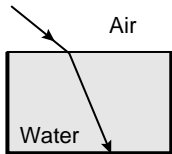
A. Standard of Learning: 8.9 The student will investigate and understand the nature and technological applications of light. Key concepts include

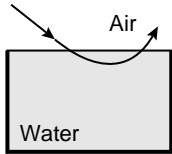
a) reflection, refraction, particle theory, wave theory.

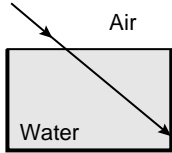
Builds To: Continued student achievement in science requires a basic understanding of the nature and characteristics of light including how it is refracted.

A 27

1 

2 

3 

4 

Which diagram shows the refraction of light as it enters water from the air?

A 1
B 2
C 3
D 4

Instruction: Provide students with opportunities to observe and analyze how light is refracted using common materials.

Science Test



A. Standard of Learning: 8.10 The student will investigate and understand scientific principles and technological applications of work, force, and motion. Key concepts include

b) applications (simple machines, compound machines, powered vehicles, rockets, restraining devices, projectiles).

Builds To: Continued student achievement in science requires a basic understanding of the applications of simple machines, such as the inclined plane, to multiply force or distance to make work easier.

A

28 A wheelbarrow full of concrete mix that needs to be moved onto a platform could be moved either by lifting it above the ground and setting it onto the platform or by using an inclined plane. The advantage of using the inclined plane is that the work can be done —

- F more quickly
- G with less friction
- H using less force
- J using more energy

Instruction: Provide students with opportunities to investigate how simple machines multiply force or distance to make work easier.

Science Test

8

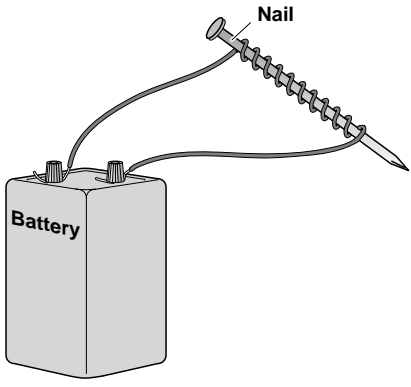
GRADE

A. Standard of Learning: 8.11 The student will investigate and understand basic principles of electricity and magnetism. Key concepts include

b) magnetic fields and electromagnets.

Builds To: Continued student achievement in science requires an understanding of electricity and electromagnetism.

A 29



The picture shows how to make an electromagnet. Which of these would make the electromagnet strongest?

- A Using a longer wire from the battery to the nail
- B Wrapping the wire around the nail more times
- C Wrapping the wire around a nonmetallic object
- D Making the loops of wire less tightly coiled

Instruction: Provide students with opportunities to make and experiment with simple electromagnets.

Science Test



Reporting Category: Life Systems

A. Standard of Learning: 6.8 The student will investigate and understand that organisms perform life processes that are essential for the survival and perpetuation of the species. Key concepts include

a) energy transformation (from food or photosynthesis).

Builds To: Continued student achievement in science requires an understanding of photosynthesis including the energy source, the raw materials, and products of the process.

A 30

	Organism	Environment	Raw Materials	Products
A	bacteria	darkness	light energy, soil	sugar
B	plant	darkness	oxygen, glucose	carbon dioxide, water
C	plant	light	carbon dioxide, water	sugar, oxygen
D	plant	light	amino acids, oxygen	proteins

According to the chart, which set of conditions represents the process of photosynthesis?

F A
G B
H C
J D

Instruction: Provide students with opportunities to conduct basic investigations concerning photosynthesis, including the analysis of tables and graphs depicting information about the process.

B. Standard of Learning: 6.8 The student will investigate and understand that organisms perform life processes that are essential for the survival and perpetuation of the species. Key concepts include

b) respiration, movement, waste removal, growth, irritability (response), and reproduction.

Builds To: Continued student achievement in science requires a general understanding of reproduction.

B 31 **Asexual reproduction involves only one parent. The offspring of this type of reproduction have —**

A DNA identical to the DNA of the parent
B DNA that is different from the parent
C one-half of the DNA of the parent
D DNA that is incomplete

Instruction: Provide students with opportunities to investigate asexual reproduction.

Science Test

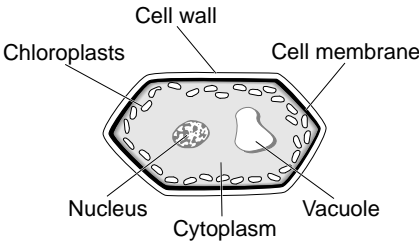
8
GRADE

A. Standard of Learning: 7.2 The student will investigate and understand that all living things are composed of cells. Key concepts include

a) cell structure and organelles (cell membrane, cell wall, cytoplasm, vacuole, mitochondrion, endoplasmic reticulum, nucleus, and chloroplast).

Builds To: Continued student achievement in science requires an understanding of general cell structure and the key organelles found in plant and animal cells.

A 32



The diagram shows a cross-section of a plant cell. It is roughly hexagonal in shape. The outermost layer is a thick line labeled 'Cell wall'. Just inside this is a thinner line labeled 'Cell membrane'. The interior is filled with a granular substance labeled 'Cytoplasm'. A large, clear, oval-shaped structure labeled 'Vacuole' is located on the right side. A smaller, darker, oval-shaped structure labeled 'Nucleus' is on the left. Several small, oval structures with internal lines, labeled 'Chloroplasts', are scattered throughout the cytoplasm.

In this plant cell, which cellular structure is responsible for storing food, water, and wastes?

F Cytoplasm
G Vacuole
H Nucleus
J Cell membrane

Instruction: Provide students with opportunities to observe and analyze plant and animal cells and interpret cell diagrams and pictures.

Science Test

8
GRADE

A. Standard of Learning: 7.5 The student will investigate and understand classification of organisms.

Key concepts include


a) differences in number, color, size, shape, and texture of external and internal structures.


Builds To: Continued student achievement in science requires an understanding of how organisms are classified.

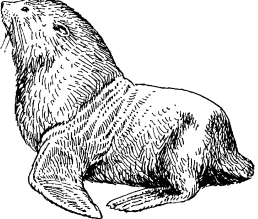
A 33


Sea Lions	True Seals
external ears	no external ears
hind flippers can turn forward	hind flippers do not turn forward
swim with front flippers	swim with hind flippers
soles of flippers bare	flippers fully furred

According to this chart, which of these animals is a sea lion?

A 

B 

C 

D 

Instruction: Provide students with opportunities to differentiate among similar appearing organisms based on certain key features.

Science Test

GRADE
8

A. Standard of Learning: 7.6 The student will investigate and understand the basic physical and chemical processes of photosynthesis and its importance to plant and animal life. Key concepts include
c) photosynthesis as the foundation of food webs.

Builds To: Continued student achievement in science requires an understanding of photosynthesis and its key role as the foundation of food webs.

A 34

Which process is the foundation for the food web?

F Evaporation
G Condensation
H Photosynthesis
J Movement

Instruction: Provide students with opportunities to investigate the role of photosynthesis in food webs.

Science Test



A. Standard of Learning: 7.13 The student will investigate and understand that organisms reproduce and transmit genetic information to new generations. Key concepts include

b) characteristics that can and cannot be inherited.

Builds To: Continued student achievement in science requires a general understanding of the transmission of inheritable characteristics.

A

35 Which type of characteristics can be inherited?

- A Those controlled by genes
- B Those caused by accidents
- C Those produced by exercise
- D Those produced by diet

Instruction: Provide students with opportunities to investigate basic genetics.

B. Standard of Learning: 7.13 The student will investigate and understand that organisms reproduce and transmit genetic information to new generations. Key concepts include

c) genetic engineering and its applications.

Builds To: Continued student achievement in science requires an understanding of the transmission of genetic information and its potential impact and significance.

B

36 Many complex genetic experiments have been performed on plants. One of the very successful ones crossed wild wheat with a fungus-resistant wild grass. This ultimately produced a variety of wheat that was resistant to a very destructive parasitic fungus which kills nonresistant plants. Why would such experimentation benefit humans?

- F The fungus is also dangerous to humans.
- G Wheat is one of the most important food crops worldwide.
- H The fungus could spread to all other plants.
- J Wheat products made from infected plants would taste bad.

Instruction: Provide students with opportunities to interpret and analyze the significance of applying genetic principles to practical problems.

Science Test



Reporting Category: Ecosystems

A. Standard of Learning: 6.9 The student will investigate and understand that organisms depend on other organisms and the nonliving components of the environment. Key concepts include

a) producers, consumers, and decomposers.

Builds To: Continued student achievement in science requires an understanding of decomposers and their role in the environment.

- A** 37 Which of the following organisms break down dead material and return the substances to the environment?
- A Grasshopper and worm
 - B Grass and algae
 - C Bacteria and fungi
 - D Snake and grasshopper

Instruction: Provide students with opportunities to investigate different decomposers and their interactions with the environment.

B. Standard of Learning: 7.9 The student will investigate and understand interactions among populations in a biological community. Key concepts include

a) the relationship among producers, consumers, and decomposers in food chains and food webs.

Builds To: Continued student achievement in science requires an understanding of the relationship between producers and consumers.

- B** 38
- Algae → Frog → Snake → Hawk
- The relationship between the algae and the frog may be described as —
- F consumer → producer
 - G consumer → decomposer
 - H producer → consumer
 - J producer → decomposer

Instruction: Provide students with opportunities to investigate simple food webs. This includes the analysis of diagrams depicting the energy flow among organisms.

Science Test



A. Standard of Learning: 7.9 The student will investigate and understand interactions among populations in a biological community. Key concepts include

b) the relationship of predators and prey.

Builds To: Continued student achievement in science requires an understanding of interactions and relationships between predators and prey in a community.

- A** 39 The ermine is a small animal that lives along riverbanks and in forests. During the spring and summer, it grows a brown coat. It sheds the brown coat during the autumn and grows a white one. This change of color in the ermine's coat allows it to —
- A hide from predators
 - B attract a mate
 - C locate a water supply
 - D find food more easily

Instruction: Provide students with opportunities to analyze various adaptive strategies in predator-prey relationships.

Science Test

GRADE
8

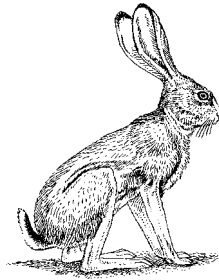
A. Standard of Learning: 7.10 The student will investigate and understand how organisms adapt to biotic and abiotic factors in a biome. Key concepts include

c) adaptations that enable organisms to survive within a specific biome.

Builds To: Continued student achievement in science requires an understanding of adaptations and how they allow organisms to survive in a particular environment.

A

40



Which of these best enables this animal to rid its body of excess heat in a hot desert environment?

- F** Its large ears
- G** Its flexible feet
- H** Its sandy color
- J** Its fur

Instruction: Provide students with opportunities to analyze examples of adaptations.

Science Test



A. Standard of Learning: 7.11 The student will investigate and understand that ecosystems, communities, populations, and organisms are dynamic and change over time (daily, seasonal, and long term). Key concepts include

a) phototropism, hibernation, and dormancy.

Builds To: Continued student achievement in science requires a basic understanding of the kinds of changes organisms undergo throughout the year.

A

41 When animals hibernate, their heart rate and respiration decrease and they lose consciousness. Why do some animals hibernate?

- A** To increase their body fat during cold periods
- B** To conserve energy usage during the winter
- C** To give their fur time to grow longer and thicker
- D** To rest after a summer of high activity

Instruction: Provide students with opportunities to analyze the role of hibernation.

B. Standard of Learning: 7.11 The student will investigate and understand that ecosystems, communities, populations, and organisms are dynamic and change over time (daily, seasonal, and long term). Key concepts include

b) factors that increase or decrease population size.

Builds To: Continued student achievement in science requires a basic understanding of communities and populations, along with the factors that bring about changes in them.

B

42 The island of Guam had no native snake species until the brown tree snake was introduced. What effect did this egg-eating snake have on the native bird populations?

- F** Bird populations were not affected by the snake's introduction.
- G** Bird populations increased as the birds preyed on the snakes.
- H** Bird populations decreased as the snakes fed on the bird eggs.
- J** Bird populations increased as the snakes eliminated predators.

Instruction: Provide students with opportunities to analyze the long-term changes that can result in a community with the introduction of exotic species.

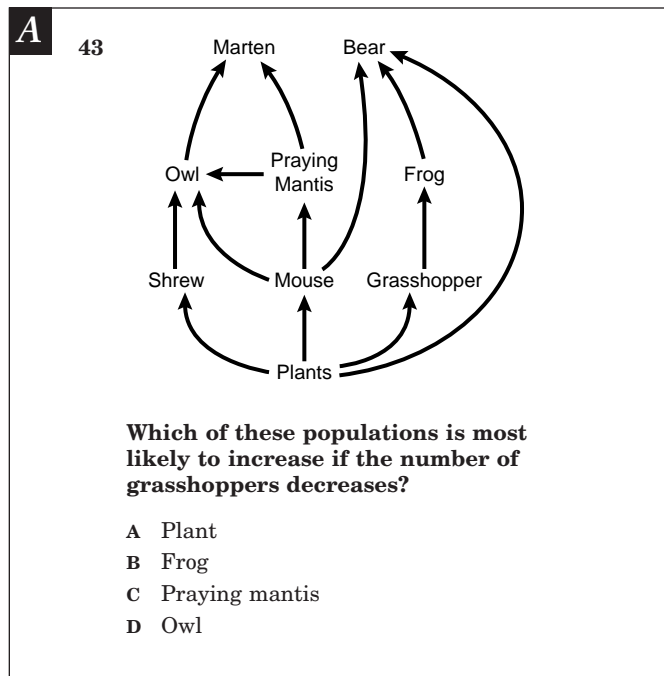
Science Test

GRADE
8

A. Standard of Learning: 7.11 The student will investigate and understand that ecosystems, communities, populations, and organisms are dynamic and change over time (daily, seasonal, and long term). Key concepts include

b) factors that increase or decrease population size.

Builds To: Continued student achievement in science requires a basic understanding of communities and populations and the factors that bring about changes in them.



Instruction: Provide students with opportunities to make predictions about changes in populations based on information presented in graphs, tables, and diagrams.

Science Test



A. Standard of Learning: 7.12 The student will investigate and understand the relationships between ecosystem dynamics and human activity. Key concepts include

b) change in habitat size, quality, and structure.

Builds To: Continued student achievement in science requires a basic understanding of the potential impact of human activity on the habitat quality and structure.

A

44 **Wherever civilizations have flourished, forests have been destroyed. Hundreds of years ago in England, rivers and seaports began to fill with silt after the forests were destroyed. What caused the silt to fill the seaports?**

- F Eutrophication
- G Succession
- H Erosion
- J Irrigation

Instruction: Provide students with opportunities to analyze historical examples of human impact on ecosystems.

Science Test

8

GRADE

Reporting Category: Earth and Space Systems

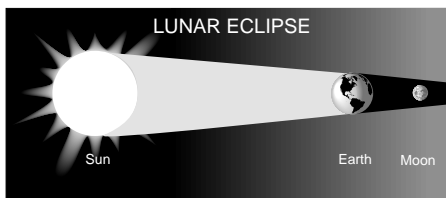
A. Standard of Learning: 6.10 The student will investigate and understand the organization of the solar system and the relationships among the various bodies that comprise it. Key concepts include

a) the sun, moon, Earth, other planets and their moons, meteors, asteroids, and comets.

Builds To: Continued student achievement in science requires a basic understanding of the Earth-moon-sun system.

A

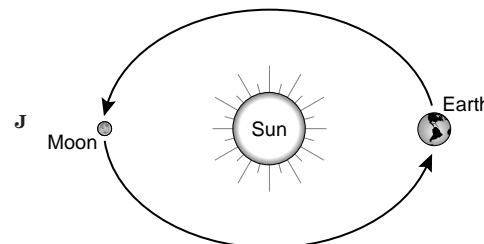
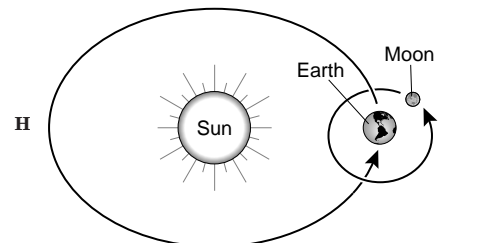
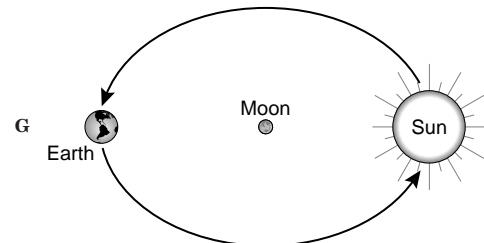
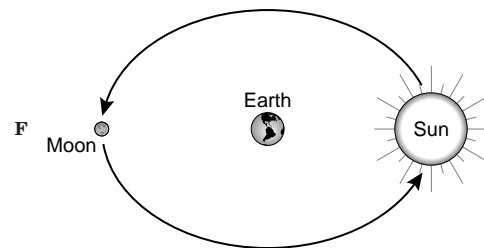
45



According to this diagram, a lunar eclipse occurs only when the —

- A moon is in the new moon phase
- B moon is between the sun and the Earth
- C sun's rays are directly overhead
- D Earth is between the sun and the moon

46 Which model best shows the relationship between the Earth, the moon, and the sun?



Instruction: Provide students with opportunities to model and interpret the Earth-moon-sun system demonstrating the relationships between the three bodies.

Science Test

8
GRADE

A. Standard of Learning: 6.10 The student will investigate and understand the organization of the solar system and the relationships among the various bodies that comprise it. Key concepts include

c) the role of gravity.

Builds To: Continued student achievement in science requires a basic understanding of gravity and its role in the solar system.

- A** 47 Which of these would be different for an object if measured on the Earth and on the moon?
- A Mass
 - B Weight
 - C Volume
 - D Density

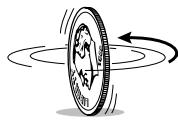
Instruction: Provide students with opportunities to differentiate between mass and weight.

B. Standard of Learning: 6.10 The student will investigate and understand the organization of the solar system and the relationships among the various bodies that comprise it. Key concepts include

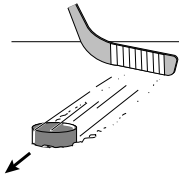
d) revolution and rotation.

Builds To: Continued student achievement in science requires a basic understanding of rotation and revolution.

- B** 48 The Earth makes a complete rotation once every 24 hours. Which of these would best illustrate rotation?



Coin Spinning
F



Puck Sliding on Ice
H



Marble Going Around
the Edge of a Plate
G



Ball Falling
J

Instruction: Provide students with opportunities to model rotation using common objects.

Science Test



A. Standard of Learning: 7.14 The student will investigate and understand that organisms change over time. Key concepts include

b) evidence of evolution of different species in the fossil record.

Builds To: Continued student achievement in science requires a basic understanding of how fossils are formed and what fossil evidence indicates about the evolution of organisms.

- A** 49 Fossils are evidence of living things that were alive many, many years ago and often consist of the skeletons of creatures imbedded in rock. Why don't fossils contain the animal's soft tissues, as well?
- A Because the soft tissues decayed before the fossil could be formed
 - B Because the rock breaks down soft tissues
 - C Because the soft tissues were always eaten by scavengers
 - D Because the rock always smashed the soft tissues flat

Instruction: Provide students with opportunities to analyze fossils and make logical inferences about the organisms and the environments in which they lived.

Science Test



B. Standard of Learning: 7.14 The student will investigate and understand that organisms change over time. Key concepts include

c) how environmental influences, as well as genetic variation, can lead to diversity of organisms.

Builds To: Continued student achievement in science requires a basic understanding of how mutations and environmental influences can lead to the diversity of organisms.

B

50 Changes in DNA are known as mutations and can sometimes produce beneficial changes in populations. A mutant form of the normally light-colored peppered moth is dark colored. The dark-colored moth blends in with soot-covered trees in heavily polluted areas. Why would the dark-colored mutation be beneficial in a polluted area?

- F** Dark-colored moths have a longer life span than light-colored moths.
- G** Dark-colored moths can't be seen well by predators.
- H** Dark-colored moths taste bad to most of their predators.
- J** Dark-colored moths produce more young than do light-colored moths.

Instruction: Provide students with opportunities to conduct simulations that model how certain characteristics can be advantageous to an organism.

Computer/Technology Test



Reporting Category: Understanding of Application Software

A. Standard of Learning: C/T8.1 The student will communicate through application software.

a) Compose and edit a multipage document at the keyboard, using word processing skills and the writing process steps.

Builds To: Work with word processing skills in producing a multipage document continues throughout high school and beyond.

A

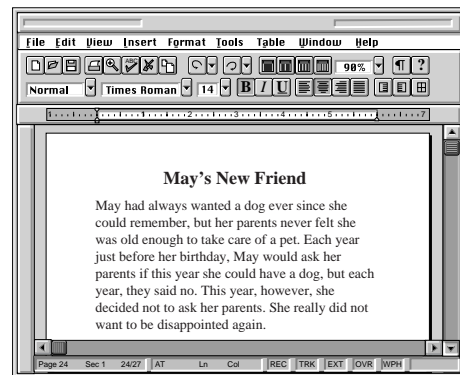
1 Chante has been asked to change a word processing document to make it look more visually appealing. Chante will increase the type size and change the font to bold and italic. This is an example of —

- A searching
- B editing
- C printing
- D defining sections

2 Pedro accidentally erased a sentence in his report. What command can he use to restore it immediately?

- F Insert
- G Copy
- H Undo
- J Replace

3



Allen has to move the first sentence so that it will be after the second sentence. He needs to —

- A use the Find and Replace command
- B highlight the first sentence, copy it, and paste it
- C use the Insert command to paste it
- D highlight the first sentence, cut it, and paste it

4 Which one of the following is a word processing application *most* useful for?

- F Computing the perimeter of a rectangle
- G Referring to a dictionary
- H Writing and editing text
- J Creating a data chart

Instruction: Provide students an opportunity to incorporate the following word processing skills into a document: selection of a font; selection of font size; and use of "Bold," "Italic," "Undo," and "Paste."

Computer/Technology Test

8
GRADE

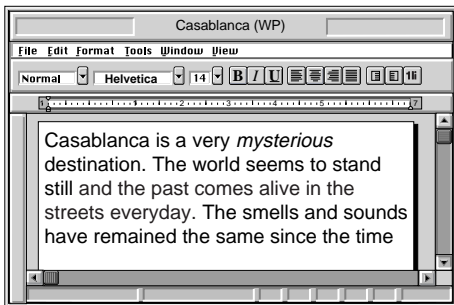
A. Standard of Learning: C/T8.1 The student will communicate through application software.

a) Compose and edit a multipage document at the keyboard, using word processing skills and the writing process steps.

Builds To: Work with word processing skills in producing a multipage document continues throughout high school and beyond.

A

5



Jenni can *best* indent the first sentence by —

- A using the right alignment command
- B pressing the Tab key
- C resetting the page setup controls
- D inserting a page break

6 Jason is editing a document that he had previously saved. If he wants to save his edited document *without* losing the original document, which command should he use?

- F New
- G Save As
- H Edit
- J Save

Instruction: Provide students an opportunity to incorporate the following word processing skills into a document: use of "Tab" and "Save As."

Computer/Technology Test

GRADE 8

A. Standard of Learning: C/T8.1 The student will communicate through application software.

b) Communicate with spreadsheets by entering data and setting up formulas, analyzing data, and creating graphs or charts to visually represent data.

Builds To: Work with spreadsheets continues throughout high school and beyond.

A

7

	A	B	C	D	E	F
1	Drama Club Production					
2			Tickets			
3		Tickets	Given	Ticket		
4		Sold	Away	Count	Attenda	
5	Mon.	28	0	28	26	
6	Tues.	29	24	53	53	
7	Weds.	65	16	81	80	
8	Thurs.	58	8		64	
9	Total	180	48	228		
10						
11						

On the above spreadsheet, what is the correct formula to calculate Thursday's ticket count?

- A =B8+C8
- B =D5:D7
- C =E8-B8
- D =B8-C8

8

	A	B	C
1	Rainfall Record in Inches		
2		This Year	Last Year
3	January	4.9	4.3
4	February	2.2	3.5
5	March	1.3	3.2
6	April	0.5	6.7
7	May	3.1	5.4
8	June	1.2	1.9
9			
10			

If Jonas decides he wants to have a blank line after the title "Rainfall Record in Inches," what is the *best* thing for him to do?

- F Insert a row
- G Use the spacebar
- H Increase the column width
- J Re-format his spreadsheet

Instruction: Provide students an opportunity to write a formula for a given spreadsheet; and insert a row.

Computer/Technology Test



A. Standard of Learning: C/T8.1 The student will communicate through application software.

b) Communicate with spreadsheets by entering data and setting up formulas, analyzing data, and creating graphs or charts to visually represent data.

Builds To: Work with spreadsheets continues throughout high school and beyond.

A

9 Darnell wants to record experiment information and create a chart that shows the rate of crystal growth over a period of time. The *best* application to use would be —

- A word processing
- B spreadsheet
- C database
- D graphics

10 In order to perform a calculation in a spreadsheet, Anabelle needs to use a —

- F table
- G formula
- H field
- J variable

Instruction: Provide students an opportunity to determine when to use a spreadsheet to display data; and identify the tool to use to perform a calculation in a spreadsheet.

Computer/Technology Test

GRADE 8

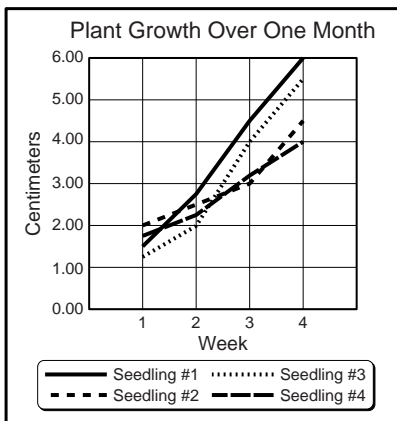
A. Standard of Learning: C/T8.1 The student will communicate through application software.

b) Communicate with spreadsheets by entering data and setting up formulas, analyzing data, and creating graphs or charts to visually represent data.

Builds To: Work with spreadsheets continues throughout high school and beyond.

A

11



The box on the chart that contains the name of each individual seedling is called the —

- A cell
- B title
- C axis
- D legend

12

	A	B	C	D	E
1	Student	Test 1	Test 2	Average	
2	Alonzo, Jose	95	93	94.0	
3	Carranza, Albert	77	82	79.5	
4	Morgan, Amy	55	90	77.5	
5	Smith, Rolf	75	70	72.5	
6	Taggart, John	62	72	67.0	
7	McQueen, Susan	95	90		
8					

In this spreadsheet, the names are arranged in —

- F an array
- G a row
- H a field
- J a column

Instruction: Provide students an opportunity to develop a spreadsheet with columns; and develop graphs and charts with a legend.

Computer/Technology Test



A. Standard of Learning: C/T8.1 The student will communicate through application software.

c) Communicate with databases by defining fields and entering data, sorting, and producing reports in various forms.

Builds To: Work with databases continues throughout high school and beyond.

A

- 13 Cody is using a database of countries. In order to arrange the countries from those with the highest population to those with the lowest, he needs to sort on the population field in —

A ascending order
B descending order
C alphabetical order
D random order

14

Common Name	Leaf Type	Flower Type	Flower Color	Location Found
Black-eyed Susan	Toothed	Rayed Petals	Yellow	In front of school
Indian Blanket	Smooth	Rayed Petals	Yellow/Orange	Next to gym
Evening Primrose	Narrow	Broad Petals	Pink	Past the football field
Queen Anne's Lace	Narrow	Cluster	White	Drainage canal by parking lot
Crimson Clover	Oval	Cylindrical	Red	Next to soccer field

The fields used in this database are mainly descriptions. It is *best* to format this type of field as —

F currency
G date
H text
J number

- 15 Information, organized as records, that can be sorted or searched in various ways is called a —

A database
B graphic
C word processing document
D spreadsheet

16

Animal Name	Size	Behavior	Feeding	Habitat
Yellow throated Vireo	5.5"	Long pauses between phrases of song	Forages in treetops	Deciduous forest
Red-eyed Vireo	6"	Male sings faster	Forages in treetops	Forests
Northern Parula	5"	Hangs upside down	Eats insects	Forests, usually near water
Golden-crowned Kinglet	3.5"	Nervously flicks when hopping from limb to limb	Gleans food from tree bark	Mixed and deciduous forests
Carolina Wren	6"	Sings up to 40 versions of song	Forages on ground	Forest undergrowth

In the database, the description "Hangs upside down" is found in the field labeled —

F Northern Parula
G Feeding
H No. 3
J Behavior

Instruction: Provide students an opportunity to add an entry to a database; to define a database record; to sort information in a database; and to identify fields in a database.

Computer/Technology Test



A. Standard of Learning: C/T8.1 The student will communicate through application software.

c) Communicate with databases by defining fields and entering data, sorting, and producing reports in various forms.

Builds To: Work with databases continues throughout high school and beyond.

A

17

Emergency Information					
File Edit Format Tools Window View					
<div><div><div></div><div></div><div></div></div></div>					
	Last Name	First Name	Phone Number	Allergies	Doctor's Name
	Michaels	Steven	555-6239	none	Johnson
	Smith	Robert	555-0988	none	
	Rameriz	Juan	555-3648	none	Masters
	Robbins	Stephanie	555-3746	Bee Stings	Phillips
	Smith	Anna	555-0988	none	
	Kline	Madeline	555-6624	Chocolate	Phillips
	Brady	Marcia	555-1123	Bee Stings	
	Smith	Susan	555-0988	Peanuts	
	Little	Lisa	555-2413	none	Johnson
	Smith	David	555-0988	none	
Record: 1 of 10 of 10					

In the above database, clicking the field "First Name" will —

- A open a new student record
- B sort the field alphabetically
- C highlight the entire field
- D link the field to the database

18

Animals						
<input checked="" type="checkbox"/>	Pet Name	Owner Name	Pet Type	Gender	Color	Last Vis
<input checked="" type="checkbox"/> 1	Sparky	Alberts	Dog	Male	Black	4/5/88
<input checked="" type="checkbox"/> 2	Daisy	Davis	Cat	Female	White	5/12/96
<input checked="" type="checkbox"/> 3	Fluffy	Williams	Cat	Female	White	12/15/96
<input checked="" type="checkbox"/> 4	Laddie	Harrison	Dog	Male	Red	8/24/97
<input checked="" type="checkbox"/> 5	Buffer	Brill	Dog	Male	Black	6/6/98
<input checked="" type="checkbox"/> 6	Spots	Lee	Dog	Female	White/E	11/16/94
<input checked="" type="checkbox"/> 7	Ted	Whitman	Cat	Male	Grey	9/2/97
<input checked="" type="checkbox"/> 8						
<input checked="" type="checkbox"/> 9						
<input checked="" type="checkbox"/> 10						

If Molly wants all of the white cats grouped together in the database, she would need to sort by —

- F Color, then Gender
- G Pet Type, then Color
- H Pet Type, then Gender
- J Color, then Pet Name

Instruction: Provide students an opportunity to sort information in a database; and to identify fields in a database.

Computer/Technology Test

GRADE
8

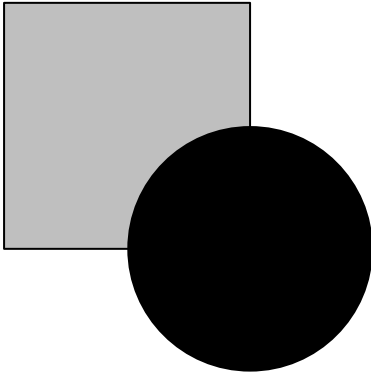
A. Standard of Learning: C/T8.1 The student will communicate through application software.

d) Use advanced publishing software, graphics programs, and scanners to produce page layouts.

Builds To: Work with graphics programs and page layouts continues throughout high school and beyond.

A

19



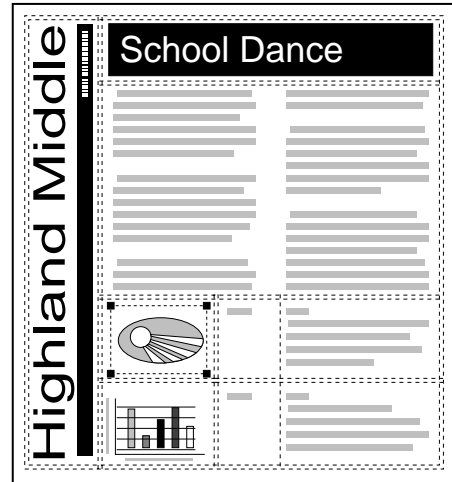
In a desktop publishing program, the above graphic illustrates the principle of —

- A layering
- B kerning
- C spacing
- D filtering

- 20 Susan has a graphic of a tree next to a house, but she only wants to use the tree. Which of the following commands in a graphics program will allow her to alter the picture the way she wants it?

- F Copy
- G Resize
- H Crop
- J Insert

21



Lisa wants to move the sun graphic to another place in the newsletter. How does she know that the graphic is selected and ready to move?

- A A double border appears around the graphic.
- B An X appears across the entire graphic.
- C The graphic is shaded, indicating it is highlighted.
- D Small squares appear in the corners.

Instruction: Provide students an opportunity to layer objects in a graphic; to crop part of a graphic; and to move one graphic to another location within a newsletter or document.

Computer/Technology Test

8
GRADE

A. Standard of Learning: C/T8.1 The student will communicate through application software.

e) Integrate databases, graphics, and spreadsheets into word-processed documents.

Builds To: Work with the integration of graphics into a word-processed document continues throughout high school and beyond.

A

22 After Mario imported some graphics into a poster he made, there wasn't enough space for the text he wanted to use. He can make it fit by —

- F resizing the window
- G using a different file name
- H resizing the graphics
- J using different colors

24 In her science report, Kelsey needs to show the monthly rainfall for her county. The *best* way to do this is to insert a —

- F calendar of the previous year
- G photograph of rainfall
- H database of area counties
- J chart showing rainfall amounts

23 Inserting an existing graphic into a report on a computer is an example of using —

- A icons
- B fonts
- C GUIs
- D clip art

Instruction: Provide students an opportunity to insert into a document a graphic using “clip art” and charts; and to resize inserted graphics.

Computer/Technology Test



Reporting Category: Understanding of Electronic Communications

A. Standard of Learning: C/T8.2 The student will communicate through networks and telecommunication.

a) Use local and worldwide network communication systems.

Builds To: Work with network communication systems continues throughout high school and beyond.

A

25 Leo found out that his favorite baseball team had a website on the Internet. What does he need to know in order to visit the team's site?

- A The city where the team is located
- B What time the team website is open
- C The Internet address of the website
- D The number of Internet pages of the team's website

26 A homepage is —

- F an index of encyclopedia articles
- G where all Internet data is stored
- H required for access to the Internet
- J the first page of a website

27 Todd was researching on the Internet. The *best* way for him to retrace where he has been is to —

- A select the Back button repeatedly
- B try to remember the Internet addresses
- C select the Home button
- D use the Search button

Instruction: Provide students an opportunity to define what "Internet" is; to understand the use of a local area network; and to locate a site on the Internet.

Computer/Technology Test



A. Standard of Learning: C/T8.3 The student will have a basic understanding of computer processing, storing, retrieval, and transmission technologies and a practical appreciation of the relevant advantages and disadvantages of various processing, storage, retrieval, and transmission technologies.

Builds To: Work with storing information technology continues throughout high school and beyond.

A

28 The following are examples of computer storage devices *except* —

- F diskettes
- G zip disks
- H scanners
- J hard drives

30 Which is *most* important when entering a computer password?

- F It is typed exactly as it was originally entered.
- G It is checked for password viruses.
- H It is typed in italic bold type.
- J It is changed each time.

29 If a computer is turned off without saving a new document —

- A the computer will not be able to restart
- B the computer will reboot
- C the document will be lost
- D the default format will be changed

Instruction: Provide students with examples of various computer storage devices. Provide opportunities to store information on a device; to recognize what happens to a document if the computer is turned off without saving it; and to realize the importance of entering a computer password correctly.

Computer/Technology Test



Reporting Category: Ability to Access, Retrieve, and Analyze Information

A. Standard of Learning: C/T8.4 The student will process, store, retrieve, and transmit electronic information.

a) Use search strategies to retrieve electronic information.

Builds To: Work with retrieving electronic information continues throughout high school and beyond.

A

31 To determine if a sports website has current information, Abdullah should check —

- A the website address
- B how the site is organized
- C when the site was last updated
- D how many other sites are listed

32 Dianne is using the Internet to find university library resources. Which domain must be present in the website address (URL) of a university library?

- F .org (organization)
- G .gov (government)
- H .edu (education)
- J .com (commercial)

Instruction: Provide students an opportunity to do an information search using the Internet; and to recognize domains that are a part of various website addresses.

Computer/Technology Test



A. Standard of Learning: C/T8.4 The student will process, store, retrieve, and transmit electronic information.

b) Use electronic encyclopedias, almanacs, indexes, and catalogs to retrieve and select relevant information.

Builds To: Work with the retrieval of information from electronic sources continues throughout high school and beyond.

A

33 Sid is using a local area network to search his school library catalog for books on deep-sea exploration. Which category should he search?

- A Search by subject
- B Search by style
- C Search by author
- D Search by genre

35 Jenna is writing a report on reefs and their effect on the Atlantic coastline ecosystem. Using an electronic encyclopedia, which keywords would give her the *best* results?

- A Atlantic reefs
- B Atlantic ecosystem
- C coastline, effects on
- D coastline, Atlantic

34 Darrin is doing an electronic encyclopedia search and enters the topic: Soccer. He does a second search, and this time he enters: Soccer or players. The second search will probably produce —

- F a list of players only
- G fewer items
- H exactly the same list as the first search
- J more items

Instruction: Provide students an opportunity to use keywords in an electronic encyclopedia search.

Computer/Technology Test



A. Standard of Learning: C/T8.4 The student will process, store, retrieve, and transmit electronic information.

d) Use local and wide-area networks and modem-delivered services to access and retrieve information from electronic databases.

Builds To: Work with retrieving information from local and wide-area network continues throughout high school and beyond.

A

36 While researching new cars on the Internet, James decided to check in more than one search engine because —

- F that will avoid false information
- G that will avoid repetition of information
- H each engine produces different results
- J all Web users prefer this technique

37 Which of the following entries will bring the *best* results from an Internet search for monarch butterflies?

- A “butterfly”
- B butterfly or monarch
- C monarch
- D “monarch butterfly”

Instruction: Provide students with an opportunity to use more than one search engine and to determine the best Internet search to use.

Computer/Technology Test

GRADE
8

A. Standard of Learning: C/T8.4 The student will process, store, retrieve, and transmit electronic information.

e) Use databases to perform research.

Builds To: Work with using databases for research continues throughout high school and beyond.

A

- 38 Amy created a database of the planets. She wants to find all the planets that have more than 2 moons. Which search criteria will give her the correct result?

F (Moons)
G (Moons greater than 2)
H (Moons less than 2)
J (Moons equal 2)

39

Name	Continent	Length (miles)	Mouth
Nile	Africa	4,130	Mediterranean
Amazon	South America	4,090	Atlantic
Mississippi	North America	3,700	Gulf of Mexico
Yangtze	Asia	3,400	East China Sea

In the above database, which fields would Bianca search to find the longest river in Asia?

A Name and Asia
B Name and Yangtze
C Continent and Mouth
D Continent and Length

40

Clicking on the arrow next to Snow will —

F return the user to the previous page
G bookmark the site
H display a drop-down list
J automatically scroll to the end of the page

Instruction: Provide students with an opportunity to determine the search criteria needed to locate information in a database; to work with field and data notation for a search; and to use an arrow to display a drop-down list in a database.

Correct Answers



ENGLISH: *Reading/Literature and Research Test*

1. A 2. J 3. D 4. J 5. A 6. F 7. A 8. G 9. D 10. G
 11. C 12. G 13. B 14. G 15. B 16. J 17. C 18. F 19. C
 20. F 21. D 22. G 23. C 24. J 25. A 26. J 27. D 28. J
 29. A 30. F 31. A 32. H 33. D 34. F 35. B 36. H 37. D
 38. F 39. D 40. G 41. B 42. J

ENGLISH: *Writing Test*

1. D 2. G 3. A 4. H 5. B 6. G 7. D 8. F 9. C 10. G
 11. B 12. J 13. C 14. F 15. A 16. G 17. C 18. G 19. D
 20. H

MATHEMATICS TEST

1. B 2. J 3. A 4. G 5. D 6. J 7. D 8. G 9. B 10. G 11. B
 12. G 13. C 14. F 15. B 16. G 17. C 18. J 19. B 20. J 21. C
 22. G 23. B 24. G 25. C 26. H 27. C 28. G 29. B 30. H
 31. C 32. G 33. C 34. H 35. C 36. J 37. C 38. G 39. C
 40. J 41. D 42. H 43. D 44. J 45. A 46. H 47. D 48. G
 49. B 50. J 51. C 52. J 53. B 54. H 55. C 56. G 57. B 58. H
 59. C 60. G

SCIENCE TEST

1. B 2. G 3. B 4. H 5. B 6. J 7. D 8. G 9. A 10. F
 11. C 12. G 13. D 14. J 15. C 16. H 17. C 18. J 19. B
 20. H 21. B 22. J 23. B 24. J 25. A 26. F 27. B 28. H
 29. B 30. H 31. A 32. G 33. C 34. H 35. A 36. G 37. C
 38. H 39. A 40. F 41. B 42. H 43. A 44. H 45. D 46. H
 47. B 48. F 49. A 50. G

COMPUTER/TECHNOLOGY TEST

1. B 2. H 3. D 4. H 5. B 6. G 7. A 8. F 9. B 10. G
 11. D 12. J 13. B 14. H 15. A 16. J 17. C 18. G 19. A
 20. H 21. D 22. H 23. D 24. J 25. C 26. J 27. A 28. H
 29. C 30. F 31. C 32. H 33. A 34. J 35. A 36. H 37. D
 38. G 39. D 40. H